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GOGLA e-waste Toolkit

Module 5

E-waste and the consumer

November 19, 2019

Agenda

Duration	Item
5 min	Introduction to Module 5
15 min	Presentation Sustainable Solar E-waste and Battery Technology Management – Customer Experience
10 min	Q&A
40 min	Panel discussion
10 min	Q&A
10 min	Call to action and wrap-up

Module 5: E-waste and the Consumer

This module aims to provide an understanding of consumer perceptions and behavior around e-waste; identifying touchpoints and messages along the customer journey that can improve understanding of safe disposal and extend the life of products while strengthening the relationship with brands and enhancing retention.

Sustainable Solar E-Waste and Battery Technology Management

Consumer Experience

Molly Dean
Senior Advisor, Scaling Off-Grid Energy
U.S Agency for International Development

The following slides represents a 320 household survey across 40 villages in rural Uganda, completed by teams at UC Berkeley and IPA, as part of a research study supported by USAID and executed by the ResilientAfrica Network, UC Berkeley, and the University of Dakar.

This household survey explores consumer behavior around solar e-waste collection, recycling, and repair. The full report can be found on the Efficiency for Access website (www.efficiencyforaccess.org).

USAID
FROM THE AMERICAN PEOPLE

Consumer Household Survey

Project Objectives

1. Where are products commonly disposed of at end-of-life?
2. What do consumers understand about the safety and environmental risks of disposal?
3. What value is placed on products at their end-of-life?
4. How far are consumers willing to go to return a product? How can we incentivize this behavior?
5. What are ideal collection points (e.g. agents, repair shops, waste collectors) and what are the consumers' relationship with them?

Household Survey

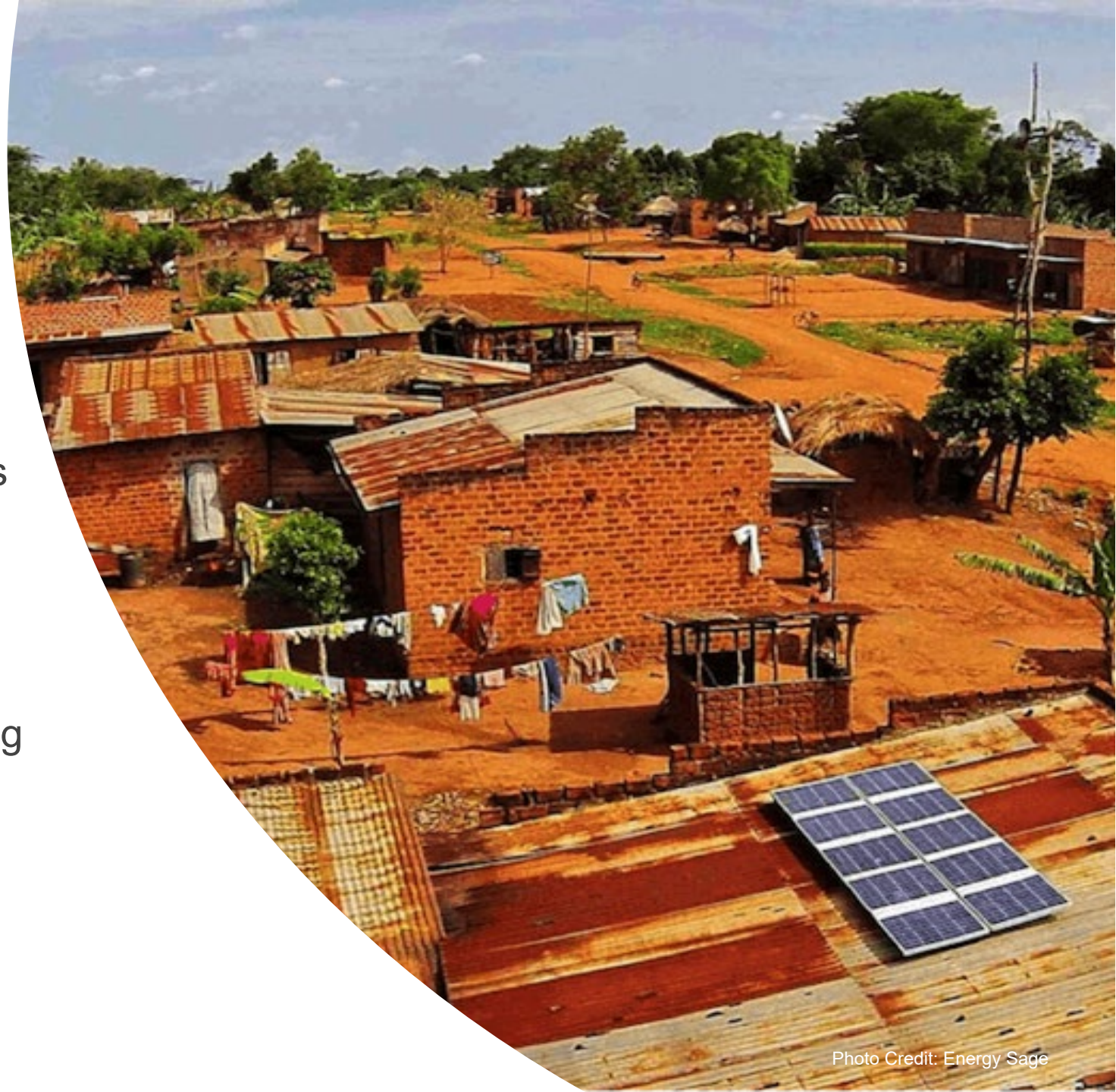
320 Ugandan households

- 8 districts
- 40 villages

- 58% owned name-brand systems ($149), 42% owned off-brand systems ($89)

- After solar, grid electricity and kerosene are the second and third-most used sources of lighting

- 23% of respondents had a grid connection



Disposal Behaviors

Responsible Behaviors

- Recycled
- Upcycled
- Picked up by supplier

Potentially Risky Behaviors

- Thrown away, discarded
- Burned
- Placed in storage (house or shed/structure)
- Trade in for new component (by 3rd party off-brand supplier)
- Sold for cash (to 3rd party off-brand supplier)
- Picked up by scrap vendor

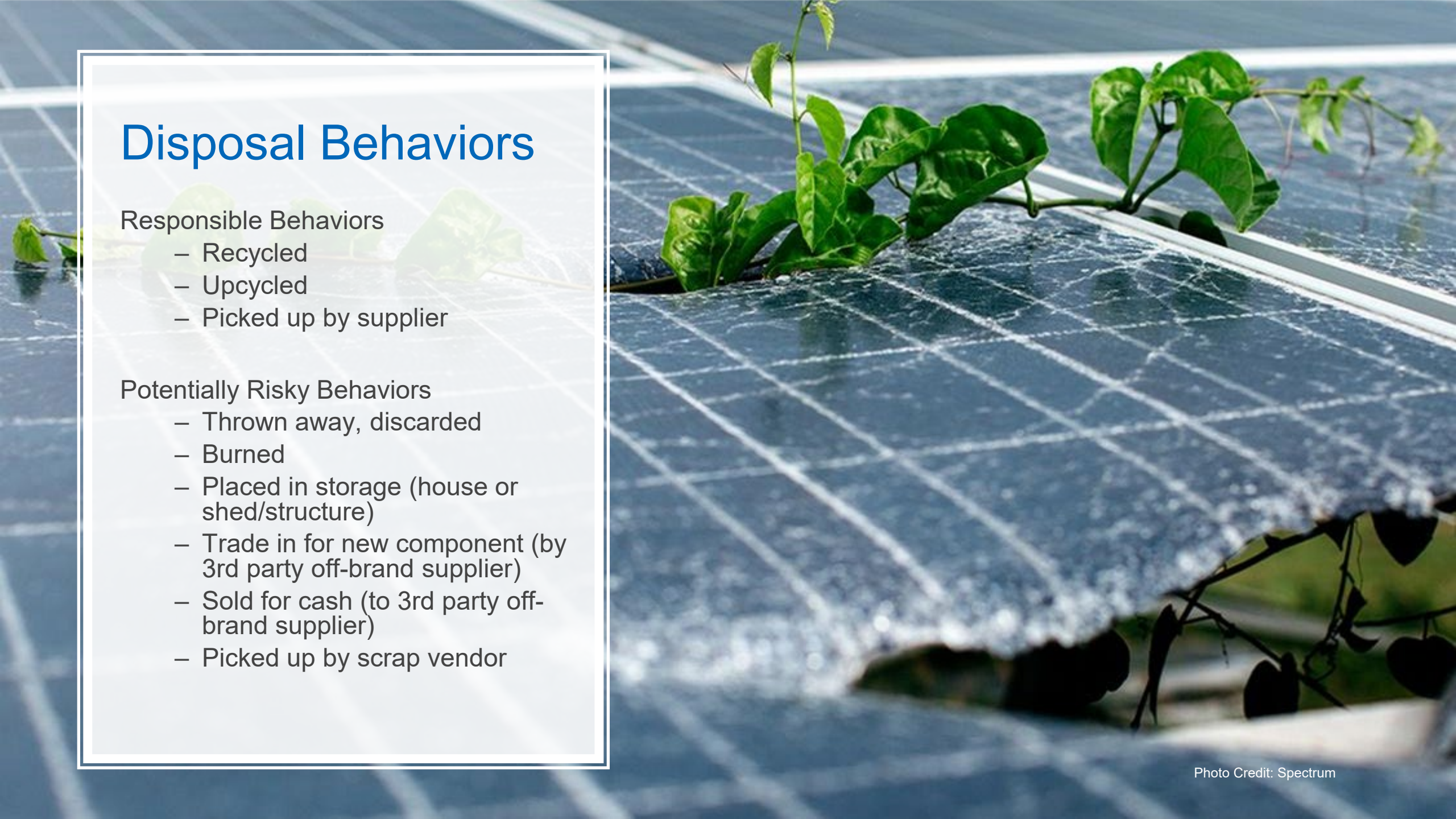


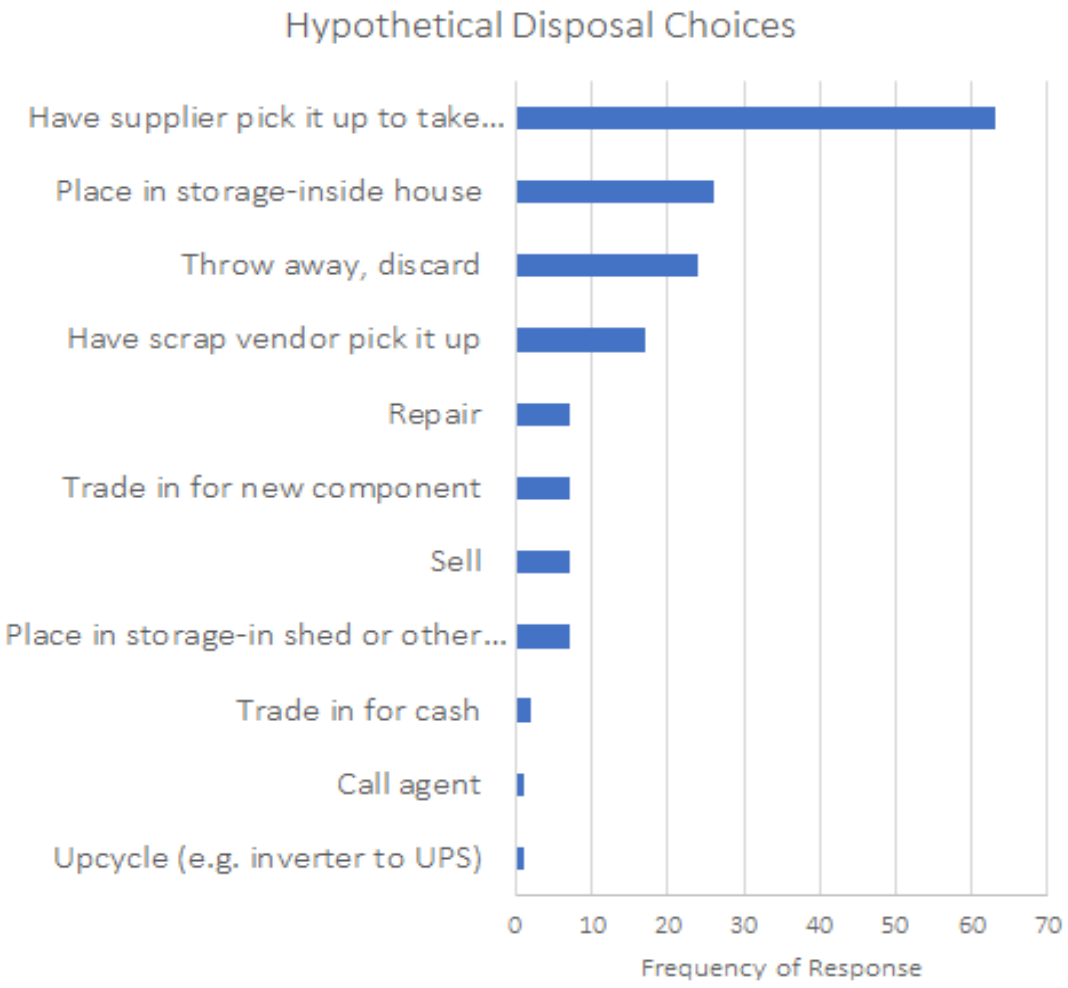
Photo Credit: Spectrum

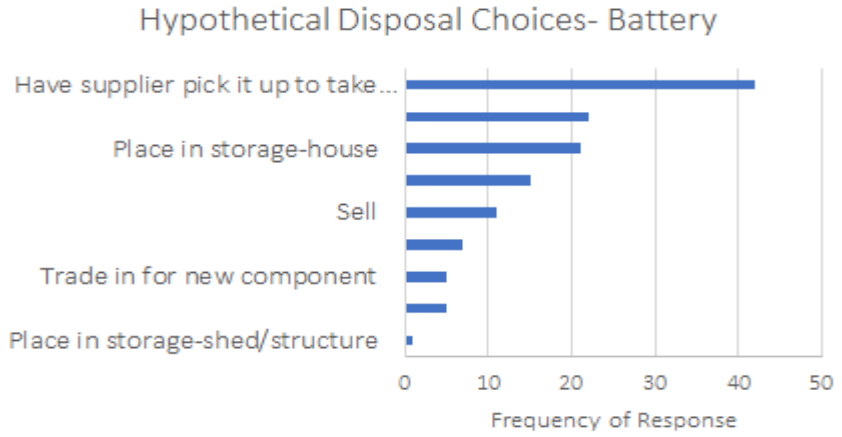
Predictors of Responsible Disposal Behavior

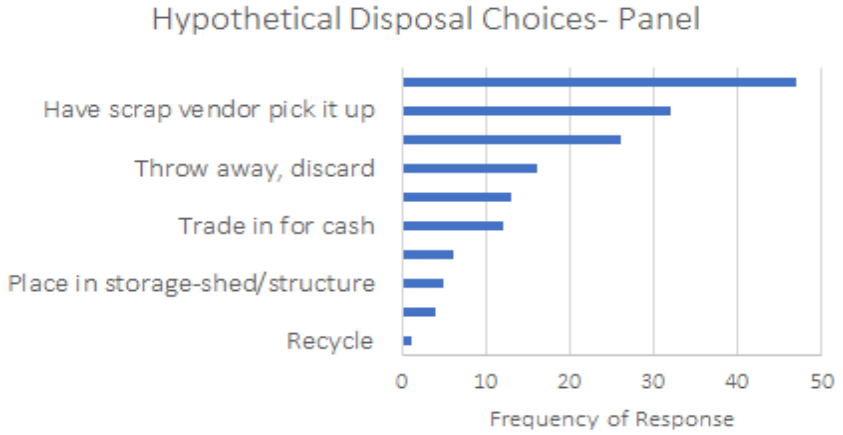
- Owning a name-brand SHS
- Having a university-level education
- Ownership of other high-value electronic devices

Photo Credit: Fenix International

If your SHS stopped working today, what would you do with it?







Consumer Disposal Opportunities

Are you aware of any solar recycling or trade-in programs, where you can return a broken component or solar device back to a recycling center (or to the original provider) and they will pay you for the broken component?

- 98% No, 2% Yes

Owners of name-brand SHS have more profit opportunities

- 83% of name-brand owners have the opportunity received cash or a discount for return of broken equipment, compared to 44% of off-brand owners (batteries)

SHS owners place a high value on their equipment, even when the equipment is broken

Owners of name-brand systems valued their broken SHS higher than owners of off-brand systems

- $54 for name-brand
- $27 for off-brand

- Value of broken components: Name-brand vs off-brand owners
  - Battery: median of $13.50 vs. $8.10
  - Panel: same for all solar owners, median of $13.50
  - Controller: $1.35 vs $5.40 UGX
    - 57% of name-brand owners placed the value of a broken controller at less than $2.70, while 30% of off-brand owners thought the same

Photo Credit: Tehran Times

What next: Where do we go from here?

Incentives to Recycle

SHS owners would utilize an e-waste recycling/disposal center for an incentive based on the travel distance

- 2-10km: $2.17 USD
  - The median solar user would ask for $2.17 USD as compensation for their journey to a recycling center that is relatively close
- 15-25km: $5.42 USD
  - For recycling centers longer distances away solar owners would ask for $5.42 USD for compensation.

No consistent difference was reported between groups of different wealth levels

Summary

- Large opportunity exists for LG-certified companies to better serve consumers:
  - Name-brand systems cost more, are valued higher, and more likely to be disposed of responsibly
- Perceived SHS value underutilized by company take-back programs:
  - SHS owners place a large value on system components, even when broken
- Consumer awareness campaigns and increased access greatly needed across all demographics:
  - Little consumer knowledge exists about potential risks associated with improper disposal
  - Minimal consumer awareness of e-waste recycling programs, let alone any potential profit opportunities
- Opportunity to explore incentive schemes for collection:
  - SHS owners would utilize an e-waste recycling/disposal center for an incentive based on travel distance

“Sustainable Solar E-Waste and Battery Technology Management: A Qualitative Study of Off-Grid Solar Markets Across Uganda and Senegal”

www.efficiencyforaccess.org

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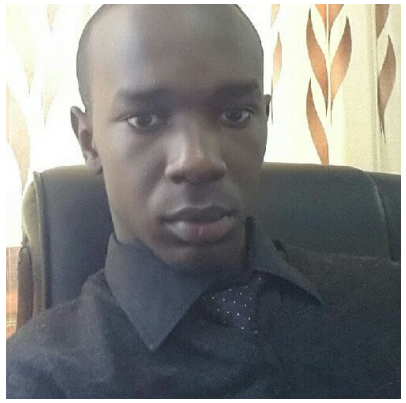
Panel discussion



Hardley Malema
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Head of Supply Chain
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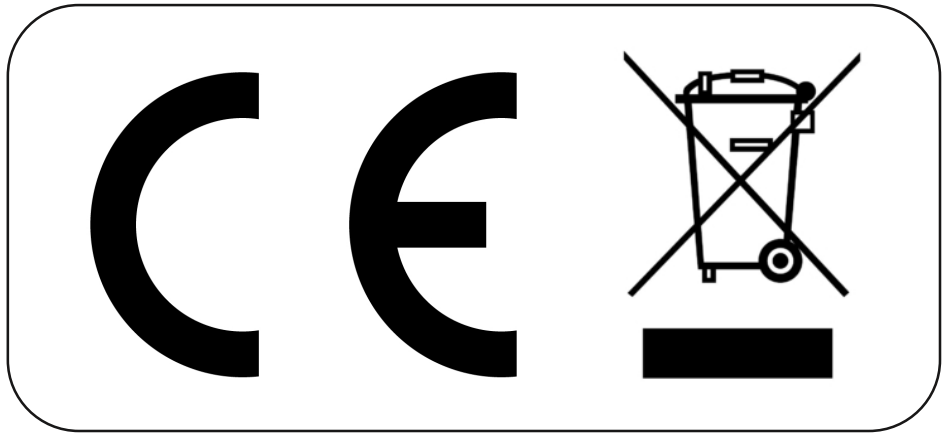
Project Manager
WEEE centre

Labelling concept – for discussion



The few regulations in OGS markets that have been studied do not include packaging labelling requirements, as is common in other examples (EU WEEE and RoHS directives).

There is currently a wide variety of information on packaging - examples:

"Don't dispose of battery in household waste or in fire as they may explode. Dispose according to local regulations. Recycle when possible."

"Do not dispose or burn the product in nature"

"Do not dispose of either the lamp or solar panel or the battery in a fire. The product should not be thrown in households waste bins. To dispose the product consult the local environmental protection regulations for information about the disposal of electronic products in your area and dispose carefully. Dispose the battery in accordance with the law and regulations in your area."

"The battery must be removed from the appliance before it is scrapped. The appliance must be disconnected from the supply mains when removing battery. The battery is to be disposed of safely."

"Dispose the product if it can not be repaired anymore. Do not dispose or burn the product in the nature."

Poll

Would a voluntary standard/guidelines for consumer-facing information on end-of-life requirements add value?

It would relate to potential hazards and take-back, disposal and recycling options, etc. It would be used on product packaging, instruction manuals, warranty cards, “top-up” posters, awareness campaigns, etc.

A. Absolutely, harmonisation would clarify and reinforce the message for consumers.

B. Yes, but with tweaks that reflect local and regional needs.

C. No, each company should be able to decide if and how they present this information.

D. No, there is too much variation between product waste types and country contexts.

E. Not sure, I would need more information about the potential impact.

Poll results

Would a voluntary standard/guidelines for consumer-facing information on end-of-life requirements add value?

It would relate to potential hazards and take-back, disposal and recycling options, etc. It would be used on product packaging, instruction manuals, warranty cards, "top-up" posters, awareness campaigns, etc.

A. **Yes, harmonisation would clarify and reinforce the message for consumers (27%)**

B. **Yes, but with tweaks that reflect local and regional needs (63%).**

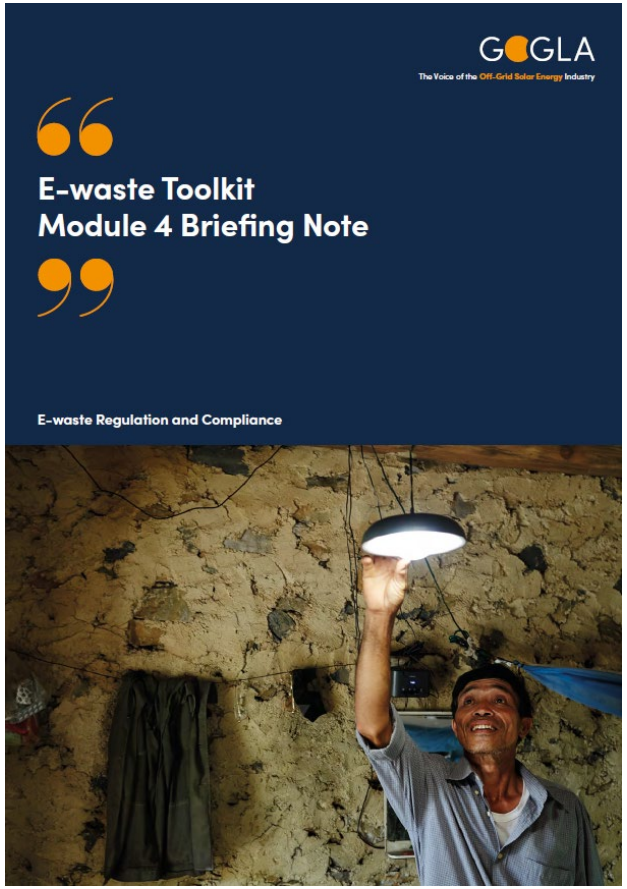
C. No, each company should be able to decide how they present this information (0%).

D. **No, there's too much variation in product waste types and country contexts (9%).**

E. Not sure, I would need more information about the potential impact (0%).

Update and upcoming

- E-waste Toolkit Seminar 6 – Take-Back and Collection. Save the date: December 3, 14:30-16:00 CET.
- ACE webinar – Solar e-waste policy, November 20, 14:00 EAT.
- We're working on Briefing Note 5 and 6. Please share any materials or resources or insights you have e-waste and the consumer or Take-back and collection to j.martinez@gogla.org
- E-waste Toolkit expansion.



Briefing Note 4: E-waste Regulation and Compliance. www.gogla.org/e-waste.

Kenya E-Waste Workshop

CDC Investment works

sofies

CDC Group, M-Kopa and other Electrical and Electronic Equipment (EEE) producers are working together to establish the evidence base and conduct a pilot project to develop an efficient and effective e-waste management system in Kenya.

As part of wider efforts, CDC are currently funding an e-waste pilot focused on the collection and recycling of e-waste in partnership with M-KOPA and other key players.

This workshop will present objectives and preliminary results of the ongoing e-waste pilot. Additionally, the workshop will seek to discuss the current state of play with regards to e-waste management and key challenges faced by the industry, inviting feedback from those in the room.

The workshop will be opened by the Principal Secretary of the Ministry of Environment and Forestry.

27 November 2019

Fairmont Norfolk Hotel, Nairobi, Kenya

Reservation necessary, email:
joe.segal@sofiesgroup.com

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Sustainable Product Design & Battery Technologies

Application Deadline: December 15, 2019

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E-waste

Thank you.

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