

Governing solar electronic-waste recycling in Kenya

Project meeting held on 7th December 2021

Hotel La Mada, Nairobi



Why this Research?

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Research Issues

- Low Grid connectivity in Kenya but growing
- Rural Areas – low power connectivity (Costs grid electricity is also high)
- Sales of small off-grid solar PV systems have exploded in the last 10-15 years
- Solar PV Systems have short life span
- What happens when their life end?
- Waste crisis; Hazardous substances –metals; human health; environmental damage

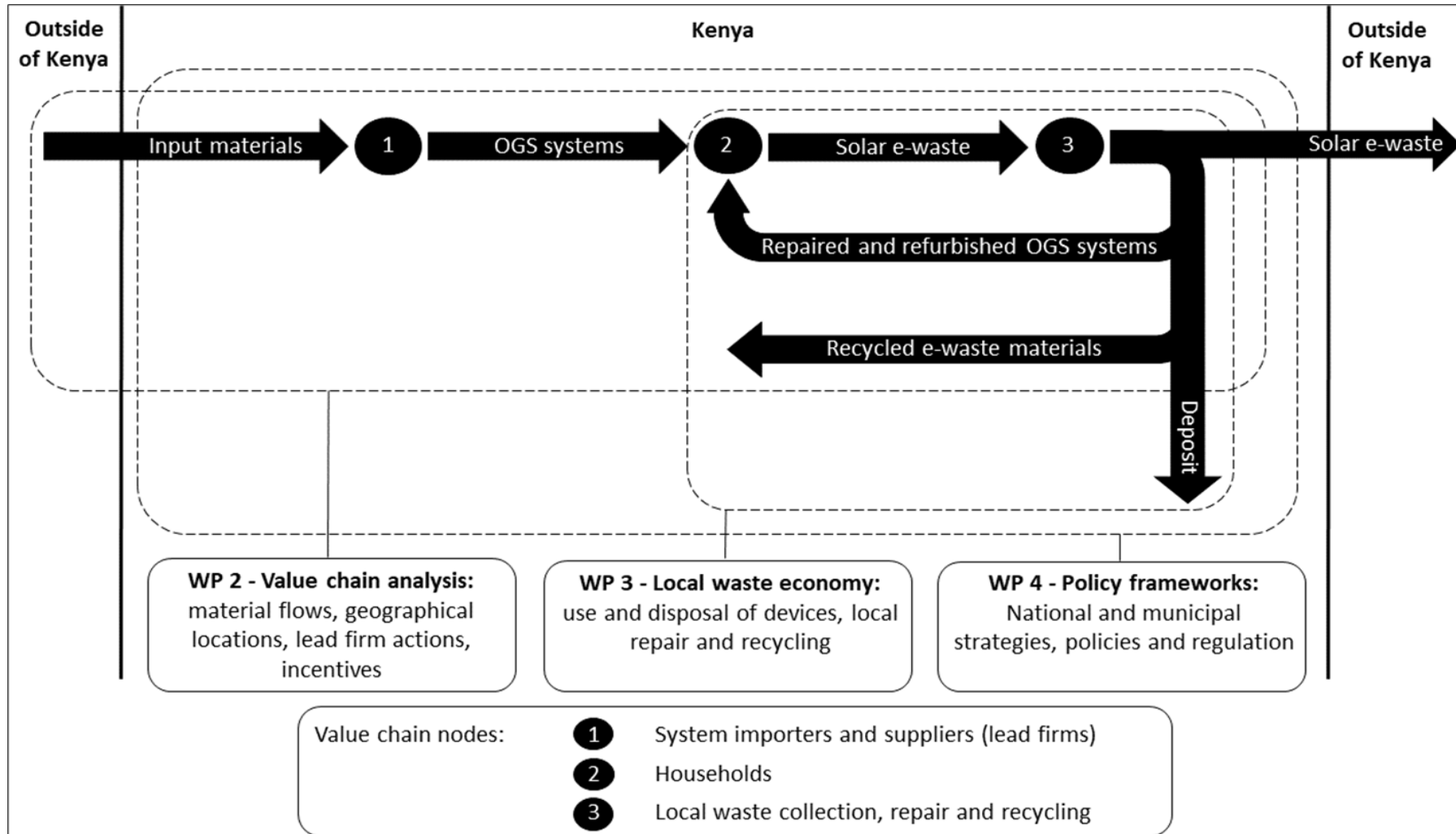
Knowledge Gap

- Kenya in 2020 about 4,000 tonnes Solar PV Systems
- Little about what happens to solar PV systems after they break down
- Recycle Policies and practices
- Need to investigate the 'after-life' of off-grid solar PV devices in Kenya
- Assess the scale of the problem and
- Identify ways in which current waste management practices can become more sustainable
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Research Objectives

- Advancement of the scientific frontier on waste and post-consumption processes in the GVC literature
- Contribute to a circular economy by developing a more sustainable market model for sales and collection of OGS devices in Kenya and across SSA.
- Contribute to the design of national policy action on solar e-waste management
- Strengthened research capacity among the involved research partners in the analysis of SEW from OGS devices and the theoretical perspectives used in the project.

Project Conceptual Framework



Adapted from Hansen, et al. 2021

Project's Work Packages (WP)

WP1:

- *How, why and to what extent are the leading suppliers of OGS devices in Kenya currently involved in the collection and recycling of SEW? (RQ 1)*

WP2:

- *How are OGS products and SEW materials transformed and processed at the end-of-life stage by end-users and in the local recycling economies? (RQ 2)*

WP3:

- *How are SEW pathways most likely to develop and how can regulatory mechanisms incentivise a higher degree of SEW recycling? (RQ 3)*

Work Packages (WP) 1

How, why and to what extent are the leading suppliers of OGS devices in Kenya currently involved in the collection and recycling of SEW?

Work Packages (WP) 1

Role of Lead Investors – Drivers & barriers

- Do OGS Investors have a role to play in SEW?
- Experience elsewhere shows that OGS investors increasingly integrate environmental, social, and governance (ESG) considerations into their investment analyses and decisions.
- We assess how lead investors (if any) focus on their due diligence and monitoring and control mechanisms to manage SEW.
- Examine main drivers and barriers that investors in the OGS sector face when determining whether to prioritise the management of e-waste from solar systems in their investment decisions.

Role of Lead Firms in Kenya (GVC)

- GVC Approach – Beyond consumption
- GVC literature generally overlooks post-consumption practices and waste generation in value chains
- Actors, nodes, governance and value addition – SEW
- Need to improve the understanding of the factors influencing lead firms' engagement with environmental upgrading in GVCs
- The notion of governance involves the activities and practices of lead firms, who are powerful actors that control the flows of information and resources, and the functional division of labour throughout the entire SEW value chain

Work Packages (WP) 1

Status of the Project 1

1. Data collection with lead investors done
2. Journal submitted to the journal
3. Conference paper accepted
4. Fieldwork in Kenya planned for Jan – February 2022

Status of the Project 2

1. Collection of secondary data (OGS – imports is underway
2. Draft paper on GVC in progress
3. Identification of lead OGS companies in Kenya on-going
4. Fieldwork in Kenya planned for Jan – February 2022

The lead firms

The main ones

1. M-KOPA Solar
2. Greenlight – Sunking
3. D.light
4. Mobisol
5. Azuri Technologies
6. BBOXX

Others? Courtesy of WP2 Pre-survey activity

7. Solar Panda
8. Solibrium Solar – Kakamega – Western region

Mapping the sector to identify more lead firms – List EPRA courtesy of Eric

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|---|--------------------------------------|
| 1. SunnyMoney Kenya | 13. Thrive Energy Technologies (EA) |
| 2. Ecozoom | 14. Krystalline Salt Ltd |
| 3. One Acre Fund – Sun King Pro solar light | 15. We Care Solar |
| 4. Raj Ushanga | 16. Kingfisher Consultants Ltd |
| 5. Barefoot Power (Africa) Ltd | 17. Cook n' Lite Ltd |
| 6. Apple Logistics | 18. Philips EA Ltd |
| 7. S3C Kenya Ltd | 19. Mibawa Suppliers Ltd |
| 8. Total Kenya Ltd | 20. Orb Energy Ltd |
| 9. Shankan Enterprises | 21. Solataa Ltd |
| 10. Enviro Hub Holdings | 22. Fides Kenya Ltd |
| 11. Light UP (East African) Foundation | 23. Suntransfer Kenya Investment Ltd |
| 12. Pawame Kenya Ltd | 24. Biolite Holdings Kenya Ltd |
| | 25. StarTimes Kenya Ltd. |

Thank you very much