Incentive based collection of e-waste – Results from pilot implementation in Ghana
Andreas Manhart, Bennett Akuffo, Sampson Atiemo, Kweku Attafuah-Wadee, Johanna Jacobs, Alexander Batteiger
Incentive based collection of e-waste: Results from pilot implementation in Ghana
Background & introduction

- One of the most pressing pollution issues in informal e-waste recycling.
- Aim: Earn money from the sale of copper & aluminium.
- Alternative treatment options more costly

Cable fires

Incentive based collection of e-waste: Results from pilot implementation in Ghana
Background & introduction

- Establishment of a National E-waste Fund
- Filled by e-waste levies on imported equipment
- To be used for sound management of e-waste and to reduce negative impacts.
- Amongst others, also for “incentives for collection, transportation and disposal”

Main objectives of this project module:
- To pilot incentive based collection of worst polluting e-waste types
Starting point

• First in-field test of Piloting Payment System with a handover centre

Sub-objectives

• Gain practical experiences how the informal scrap market will react on such an incentive system.

• Test and evaluate various practical issues (stakeholder interaction, incentive levels, transaction modalities...).

• Document & share lessons-learned with policy-makers (MESTI, EPA, KfW...)

Incentive based collection of e-waste: Results from pilot implementation in Ghana
Concept overview

Incentive based collection of e-waste: Results from pilot implementation in Ghana

Collectors

Develop & adjust methodology

Receive compens.

Deliver cables

Cables

Payment made for: GHS 430.00 to GreenAd.

Current Balance: GHS 1070.01.

Available Balance: GHS 1070.01.

Reference: 417031401. Fee charged: GHS 0.00. SMS: 12:11

GIZ - CWR - ELECTRIC CABLE ANALYSIS

E-CABLE DATE WEIGHT Cu KG Al KG STEEL Fe KG

19.07.2018 62.5 19.2 0.8 0.5

100 30.7 1.3 0.8

Öko-Institut e.V.
Institut für angewandte Ökologie
Institute for Applied Ecology

Green Advocacy Ghana

City Waste Recycling LTD
Transaction process

1) Delivery

Incentive based collection of e-waste: Results from pilot implementation in Ghana
Transaction process

2) Quality control & grading

Incentive based collection of e-waste: Results from pilot implementation in Ghana
Transaction process

3) Weighing & photo documentation
Transaction process

4) Data recording & mobile money payment

Incentive based collection of e-waste: Results from pilot implementation in Ghana
5) Storage & transport to recycler
Incentive based collection of e-waste: Results from pilot implementation in Ghana

Incentive level

Incentive level high-grade cables [€/kg]
Incentive level low-grade cables [€/kg]
Incentive level aluminium cables [€/kg]
Incentive level plugs & others [€/kg]

Incentive level [€/kg]

week of project

system down due to liquidity issues
system down for restructuring cable grading & processes
Market response

Incentive based collection of e-waste: Results from pilot implementation in Ghana

Low incentive levels
Liquidity issues
Liquidity issues
Rainy season
Liquidity issues

Collected volumes high-grade [kg]
Collected volumes low-grade [kg]
Collected volumes aluminium cables [kg]
Collected plugs & others [kg]

Week of project

23.-24.10.2019
Results

- 10 months of operation (22.10.18 – 20.08.19)
- 27.3 t of cables collected & channeled to sound recycling
- 1389 individual transactions
- Significant emission reduction
- Established alternative to burning that does not discriminate small scale collectors and recyclers
Incentive based collection is a meaningful way to link informal collectors to sound recycling and to avoid polluting practices carried-out under informal conditions.

Beneficiaries are:

- Collectors → higher prices for some e-waste types
- Formal recyclers → stable access to e-waste
- Society → Reduced pollution
Results

- Suitable for waste types that:
  - are associated with high environmental impacts if not managed properly
  - can easily distinguished from other waste types
  - where standards, auditing & sanctions are prone to failure (informal sector settings)
- Ongoing financing needed → e.g. EPR-based financing
- Very good monitoring of costs and results possible (collected volumes & emission reductions)
Thank you for your attention!

Bennett Akuffo  
M: +233 244203401  
E: bennettakuffo@yahoo.com

Andreas Manhart  
M: +491605881625  
E: a.manhart@oeko.de

Dr. Sampson Atiemo  
M: +233 246184766  
E: atiemosam@gmail.com

Alexander Batteiger  
M: +233 556640368  
E: alexander.batteiger@giz.de