Supporting Recycling and Inclusive Waste Governance around the World

*Insights from GIZ activities on sustainable e-waste management*

Daniel Hinchliffe, 29.07.2020, ISWA Recycling Masterclass
Why does GIZ work on recycling?

- Around 2 billion people worldwide do not have access to waste management services.

- Improper waste disposal has major health, environment and social impacts.

- Improving and incentivising recycling supports:
  - Reduction of environmental and climate impacts through circular economy
  - Local value creation and employment effects
  - Reduction of health problems caused

Source: What a Waste 2.0 World Bank 2018
Why focus on recycling and recovery of E-waste?

- Digitalisation and sustainable future technologies lead to use of more electronics. E-Waste generation increased by 21% in last five years.

- 53.6 Million tons in 2019, of which only 17.4% was collected in formal recycling systems (Global E-Waste Monitor 2020)
  - Contains **valuable** and potentially **highly toxic** resources
  - Improper disposal of waste refrigerants estimated to emit annually 1.5 Gt CO2eq – the same as 441 coal power plants (GIZ Proklima).

- Informal recycling techniques focus on extracting only the valuable components, through e.g. cable burning, amalgamation or informal smelting - causing major environmental and health problems.

- To recycle hazardous e-waste components to an environmentally sound standard often requires financing of infrastructure and also operational costs.

- Better systems can be a win-win on many fronts
What sort of interventions can improve situation?

- German Development Cooperation priorities:

  - Establish regulations and standards for environmentally and socially sound recycling of e-waste
  - Inclusive business models for improved resource recovery
  - Assuming responsibility, transferring knowledge, creating awareness
  - Fostering sustainable financing and incentive schemes

What kinds of (E-waste) recycling make sense for emerging economies?

- Copy paste approach won’t work, needs to be adapted to local conditions, include all stakeholders in the value chain in holistic approach.

- Utilise existing strengths: low labour costs and experienced informal sector workers – optimised manual dismantling derives higher value than automated facilities.

- Stepwise approach to upgrade and bring informal sector on board:
  - Informal sector controls access to e-waste flows
  - Making illegal/heavy only drive activities further underground.

- Establish enabling framework conditions that enable the local recycling industry to develop – e.g. finance mechanisms of EPR.
Module objective:
The conditions for sustainable e-waste management in Ghana are improved.

- The political framework conditions for sustainable management of WEEE are improved.
- First steps for implementation of plan of action for putting in practice Act 917 are taken.
- An electronic register of manufacturers, distributors of electrical & electronic products is established.
- Business plans are available for environmentally relevant WEEE devices & fractions.
- Pilot collection and payment scheme for purchasing selected WEEE has been implemented.
- Informal WEEE recyclers demonstrate their capacities for environmentally friendly, less health endangering WEEE management.
- Alternative options for reducing environmental and health risks for women are identified together with alternative earning.
- A Strategy paper on the involvement of the informal sector in the formal circular economy has been agreed with relevant stakeholders.

Multi-stakeholder dialogue & communication
Inclusive Partnerships in E-Waste Management

- Production
- Retail
- Consumer
- Formal Take Back
- Incentives for take-back in formal system
- Informal collection
- High Efficiency
- Low Efficiency, Dangerous
- Burning/Dumping
- Informal recycling
- Resources lost due to informal processing
- Materials recycling for new products
- Extended Producer Responsibility (EPR) Legislation
- Producers cover costs for End of Life Management

thrown out with household waste
Informal-formal partnerships in EPR?

- Utilise existing informal sector collection efficiencies, limit to safer activities (collection/dismantling).

- Channel EPR funds and organise via an interface agency.

- Digital payment methods (mobile money) can be more reliable than cash transaction with middlemen & enable tracking of mass-flows

Incentives to sell to formal sector

Source: StEP 2020 paper
Overcoming the price gap

- Channeling waste out of the informal sector often means overcoming price gap between informal and formal sector.
- May need to offer some kind of advantages to cooperation – can be financial incentives or non-financial incentives
- Where legislation is in place for extended producer responsibility, finance may be available for this. Otherwise may look to cooperate via recyclers or voluntary initiatives.

Example of price gap between formal and informal sector in India (graphic: GIZ, 2018, data from Khetriwal et al. 2016)
Recommendations on partnerships (based on examples from India)

• Map out different local informal sector actors to understand context
• Civil society organisations can provide interface to connect with informal actors
• Interface agencies should take the role of mediators which communicate the needs of informal collectors and align them with the expectations of producers or PROs
• Identify and include respected & trustworthy local individuals to build trust
• Working out the right agreements, protocols and mix of incentives is key to success
• Agreements need to provide some degree of flexibility
• Non-financial incentives can only partially bridge the price gap: – e.g. fixed salaries, technical trainings, protective gear, provision of ID cards
• The performance of partnerships needs to be closely monitored, regularly evaluated and developed on a long-term basis
Strengthening Local Expertise

Training of Trainers on Inclusive E-Waste Recycling in South Africa July 2019

- Empower multipliers across Africa, help establish networks and own training itineraries
- Linked with visit to IFAT Africa Trade Fair, judging technologies for African context, how to apply ISO Sustainable Recovery of Secondary Metals Recycling Standard throughout the value chain and include informal sector.
- Introduction to Auditing and trial audits at two local recycling plants: Desco (PCBs) and Reclite (lamps).

- Webinar Series Youtube: E-Waste Management for Recyclers in Low and Middle Income Countries
Mobilising stakeholders along the value chain: PREVENT Waste Alliance
Together for a Circular Economy Worldwide

Objective:
Contribute to minimising waste, eliminating pollutants and maximising the reutilisation of resources in the economy worldwide, through the development of functioning waste management and circular economy approaches.

Approach:
• Connect stakeholders along the value chains and serve as incubator
• Provide up-to-date information for dynamic solutions
• Promote exchange of know-how and technologies adapted to local context
• Develop guidelines and conduct activities in line with these
• Implement demonstration projects with partners in low and middle-income countries

Working Groups:
• WG1: Conserving resources: Prevention of plastic waste in production and consumption, promoting the use of secondary plastics
• WG2: Closing packaging cycles: Developing take-back and recycling systems for packaging waste
• WG3: Closing e-waste cycles: Developing take-back and recycling systems for waste of electrical and electronic equipment
• WG4: Improving framework conditions: Setting up waste management and circular economy at municipal level

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Publications:
https://www.giz.de/en/worldwide/15109.html