


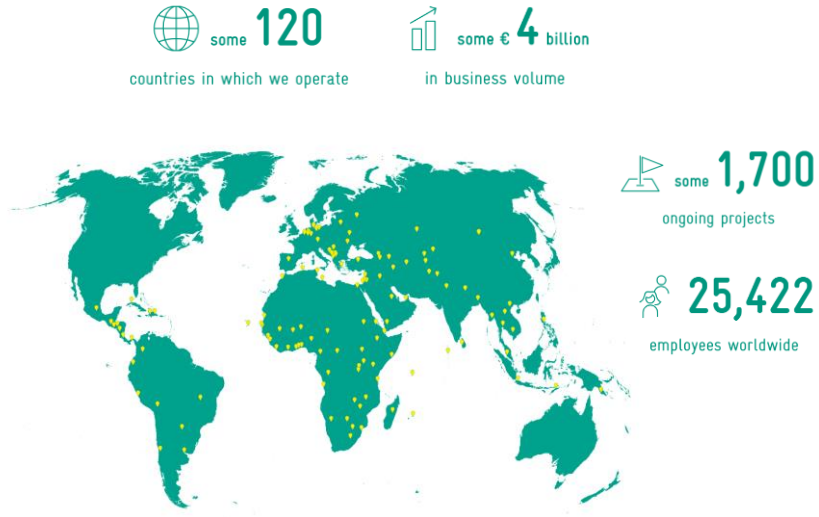


GIZ's Global Efforts in E-Waste Management and Future Initiatives in Indonesia

Oliver Baudler
Topic Lead Circular Economy, GIZ Indonesia



Global Company Profile



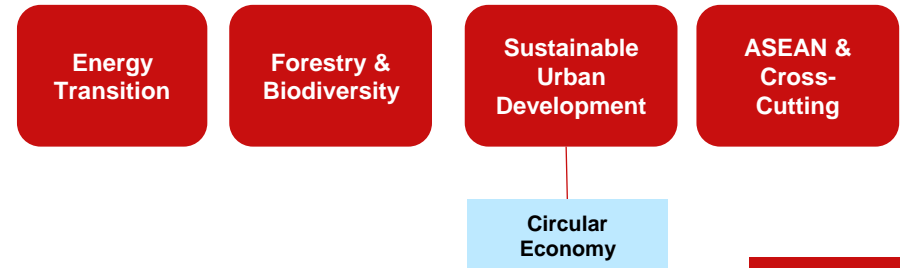
As a federal enterprise, GIZ is a service provider in the field of international cooperation for sustainable development and international education work, we are dedicated to ***shaping a future worth living around the world.***

Indonesia & ASEAN

We have been in Indonesia **since 1975**, primarily on behalf of



Core Topics & Sectors





1 Policy Advice & Targeted Research

Analyses on institutional arrangements; policy briefs; regulatory assessments & reviews; waste financing solutions; technological option; digital calculator; waste data integration & harmonization; informal sector; pre-feasibility (+FS) studies (GID & Gap Fund); extended producer responsibility (EPR); packaging design → Link to PBL via waste data, financing and EPR



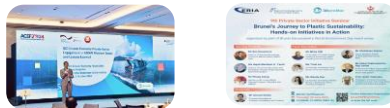
2 Capacity Development & Behavior Change

Waste cost & retribution calculation; local government trainings; CSO trainings; sensibilization on waste segregation, recycling etc. to households; private sector sensibilization



3 Pilot Measures

Collaboration with local NGOs & CSOs to advance community-based waste collection, recycling, awareness raising and behavior change; e.g. in Manado; Bogor Regency, Cirebon, Denpasar, Jambi, Bukittinggi, Bandung, 1000 Islands



4 Outreach & Knowledge Sharing

Organization & participation in conferences, events, exhibitions on behalf of partners and as GIZ to share impacts, results, and maintain relevance & competences



Topic: Circular Economy

We are supporting our partners in building crucial capacities, integrated tools and policies that seek to maintain the value of materials along the entire value chain, from pre-production, collection, treatment until disposal. Where material values cannot be retained, we seek to identify the most suitable options that take into account environmental, social and economic criteria.

Who is involved:

- ✓ **Bappenas**
fulfils an important coordinating role on policy development
- ✓ **Ministry of Environment**
crucially responsible for waste handling & reduction, data management, certification, standards/ecolabels
- ✓ **Ministry of Industry,**
relevant for industry standards, certification, research & innovation
- ✓ **And further: Ministry of Public Works; Ministry of Home Affairs; Coordinating Ministry of Food (tbc); Private Sector; Research Agency BRIN**

What we do already:

- ✓ **Institutional & Regulatory Reform via CapDev for National and Local Governments,**
Master Plan Development, Retribution Fee Reform; Pilot Measures; Data Management
- ✓ **Enhance Extended Producer Responsibility,**
Reviewing and sensibilizing existing regulations with MoEF and private sector to advance EPR
- ✓ **Infrastructure Identification & Preparation,**
Assisiting LGs to formulate infrastructure needs & linking them to potential financiers

Where we are also dipping into:

- ✓ **Stronger private sector & reseach collaborations between GER & ID (e.g. via Fraunhofer),**
tbd for the upcoming InCircular project under preparation

Direct Policy Anchoring

The **Circular Economy Roadmap & Action Plan 2025-2045** launched by Bappenas on 3 July 2024



Target groups

For national level, the total **population of Indonesia** (around 280 million people), in addition to government actors, private sector and research institutions

Link to CE Roadmap and Action Plan



Focus of InCircular is:

- Packaging waste,
- Waste from Electrical and Electronic Equipment (WEEE),
- Residual waste (Refuse derived fuel)

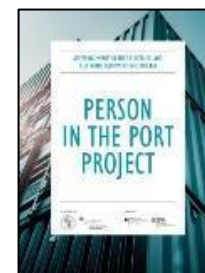
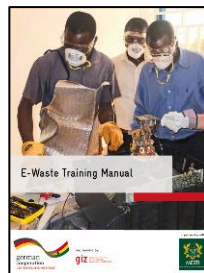
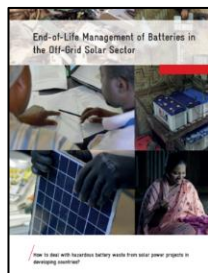
GIZ's Global Advisory Project – Circular Economy and Waste Management

- Develops and finances concepts, publications, trainings and networks with focus on e-waste, marine litter, climate and municipal waste management
- GoCircular Project has country components in Ghana, Colombia and Vietnam
- Secretariat of the **PREVENT Waste Alliance** – a Multistakeholder Partnership working for a circular economy worldwide www.prevent-waste.net/en
- **Global Action Partnership for EPR** (focus plastics) <https://gap-epr.prevent-waste.net/>

Sector Project Publications: <https://www.giz.de/en/worldwide/15109.html>

Global Advisory Project: <https://www.giz.de/en/worldwide/109471.html>

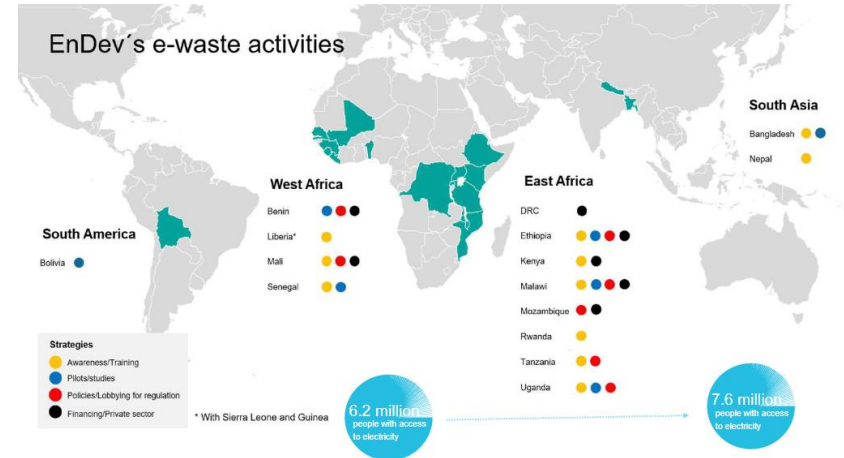
EPR Toolbox
in Bahasa ID



Selected publications developed/financed by sector/global advisory project

GLZ Projects with Environmentally Sound Management (ESM) Components for Electronics / Batteries

- **HQ:** [Global Advisory project on CE and WM](#), [Proklima Cluster](#), [EnDev Cluster](#), [GovStack](#), [TUMI](#), [PREVENT Waste Alliance](#)
- **Ghana:** [Large bilateral cooperation project](#)
- **Nigeria:** [GLZ](#) is working on lead acid and lithium-ion batteries
- **Ethiopia:** Development of battery policy and recycling options
- **Kenya:** Development of a curriculum and support for a solar PRO
- **Kosovo:** EPR on WEEE, ELV, Batteries
- **Rwanda, Colombia and Peru:** CE projects, NAMA facility
- **India:** Cooperation with private sector (e.g. Karo Sambhav and RLG India), Mobility project (on batteries)



Source: Sustainability Programme EnDev (2022)



Global E-Waste Monitor 2024 by ITU and UNITAR

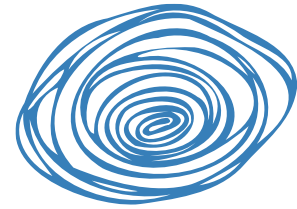


Some of the findings of the GEM 2024:

- In 2022, a record of **62 billion kg** of e-waste was **generated** and only 22.3 per cent was accounted in formal systems
- 18 billion kg of e-waste is estimated to be handled in low- and middle-income countries with no develop systems for environmentally sound management for e-waste!
- Comparing countries with legislation, **countries with EPR have higher collection rates**
- Overall economic impact of e-waste management is negative (mostly externalization of cost)
- E-waste generation is growing quicker than ESM of e-waste!

(source: [Global E-waste Monitor 2024](#) (Balde et al, 2024))

Some Examples of E-Waste management in Low- and Middle-Income Countries



(source: Adam Minter)



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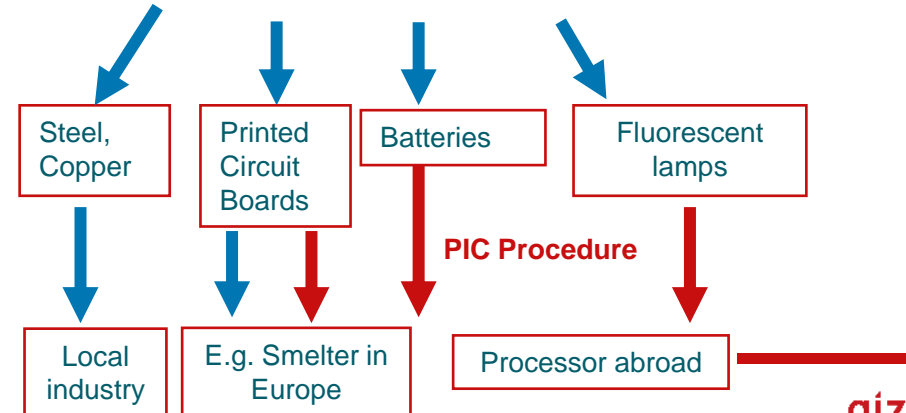


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- Informal e-waste collection, dismantling, recycling offers livelihood for many
- Highly efficient collection (may pay for waste/scrap) of many e-waste categories
- Highly efficient reuse/refurbishment/repair sector
- Cherry-pick the valuable fractions, dumping or burning the rest
- Little collection of non-valuable e-waste types (e.g. lighting equipment)
- Can lead to major environmental and health impacts

ESM of E-Waste management in Low- and Middle-Income Countries

- In many low- and middle-income countries SME formal recyclers exist that do or try to manage e-waste/e-scrap sustainably
- Sometimes ESM is **not available** for all E-waste fractions locally
- After dismantling, some e-waste fractions can be sold to local industry, some must be **exported** to appropriate end-processing facilities (all will require PIC as of 2025)
- Often not enough volumes locally or **lack of financial incentives** / subsidies don't make investment in specialized facilities viable
- Oftentimes there is **no level playing field** for sustainable e-waste management



ESM of E-Waste Requires (Minimum)

Environmentally sound treatment pathways

+

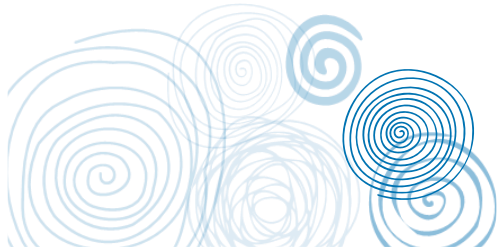
Financing of collection and recycling costs (externalities?)

- Appropriate treatment infrastructure and standards (to be compliant)
 - Can also utilise informal collection, repair and dismantling networks
 - Possibility to export some e-waste fractions (no treatment option within country)
- Infrastructure investment costs
 - Operational costs for transport, collection and recycling hazardous wastes
 - System costs for collection, managing, enforcing, audits, awareness raising etc.
 - Avoiding externalities?



Financing Options for ESM of E-Waste / EoL Vehicles

- (a) Revenues from sales of marketable goods/materials;
- (b) Payments of fees or taxes by waste generators;
- (c) Government funding, subsidies or other forms of financial support from general taxes.
- (d) Fees paid by producers of products in the context of **Extended Producer Responsibility**;



Technical Costs

Access to waste

Collection

Transport

Treatment

Framework Costs

Enforcement

Auditing

Awareness Raising

Systemic Change towards ESM of E-Waste

In the long run, **EPR** is one of the **most promising approaches** to tackle the financing of sustainable e-waste management

time

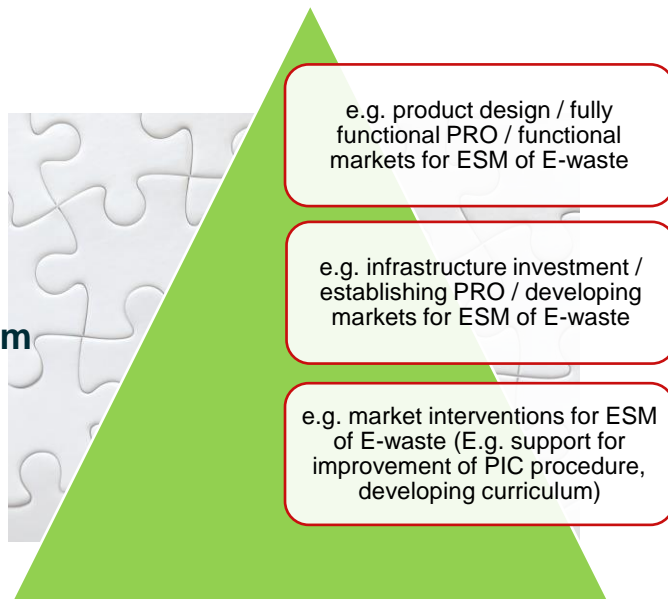
✓ **Long run**



Medium-term



Short run



alternative approaches & financing instruments, as well as product design changes

Examples

GAP for EPR



Pilot Incentive Scheme in Ghana (German Cooperation)

Examples MAP



solving the e-waste problem



Sustainable Recycling is rarely a profitable business model per se!

Circular Economy in Indonesia (InCircular)

New TA Project, 04/2025-03/2029



Implemented by:



In cooperation with:



Context: In 2023, **German Federal Ministry for Economic Cooperation and Development (BMZ)** and **Bappenas** agreed to prioritize Circular Economy in their bilateral development cooperation. GIZ has therefore been mandated by BMZ to prepare this new technical cooperation (TC) project which builds on and streamlines past efforts of the German development cooperation in the sector



Lead partner: Bappenas, and MoE, MoInd, MoHA, Provinces, Municipalities



Envisaged duration: 04/2025 – 03/2028 (4 years)

Direct Policy Anchoring

The **Circular Economy Roadmap & Action Plan 2025-2045** launched by Bappenas in July 2024

RPJPN 2025-2045
RPJMN 2025-2029



Geographical Focus

Around priority material streams

Output 1

Support the steering of the implementation of the CE Roadmap and Action Plan

Output 2

Enhance regulatory frameworks for CE and EPR for selected material streams

Output 3

Strengthen collaboration with industry for the implementation of CE and EPR for selected material streams

Output 4

Advance CE in waste management in selected provinces and municipalities

Output 5

Advance Green/Sustainable Public Procurement (G/SPP) for selected goods

Main Activities

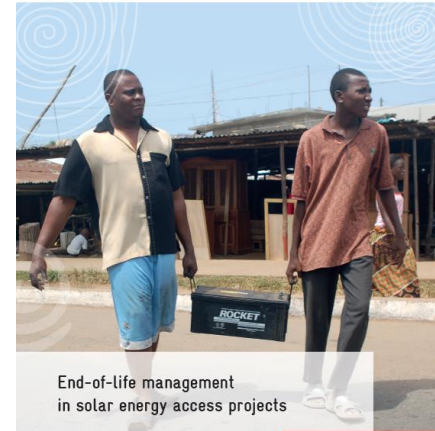
Develop EPR scheme for management and monitoring of waste from electrical and electronic equipment (WEEE) with the aim of easing repair, reuse and recycling

Conduct analyses for WEEE (waste from electrical and electronic equipment) in selected; Improve data management, collection, monitoring, and supervision in selected provinces/regions/municipalities

Further information on ESM of E-Waste and Policy / EPR

There is **more** than enough literature on the topic!

- [Measures catalogue \(GIZ/EnDev\)](#) / Measures catalogue E-bus
- [GIZ GoCircular](#) / [GIZ E-waste Programme Ghana](#)
- [PREVENT Waste Alliance \(E-waste working group\)](#)
- [Global Action Partnership for EPR](#) (Current focus plastics)
- [Sustainable Recycling Industries](#)
- [ESDS E-waste Energypedia page](#)
- [Solving the E-waste Problem Initiative](#)
- [WEEE Forum](#)
- Policy / EPR Toolbox ([PREVENT](#) / [ITU](#) / [ACE](#))



Measures catalogue





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