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# Regional E-waste Monitor Project CIS + Ukraine, Turkmenistan and Georgia

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UNEP-UNECE-EAA regional webinar on the use of SDG 12 data for policy-making

# SCYCLE Programme







## Key projects/ activities

### 1. Policy advice
- 2007 Review of the EU WEEE Directive
- 2017 E-waste in Latin America
- 2020 Common methodology WEEE Directive

### 2. E-waste quantification studies
- Global E-waste Monitor (2014, 2017, 2020)
- ProSUM (Prospecting the Urban Mine, 2017)

### 3. Capacity building and training
- E-waste Academies (Global, 2009-now)

### 4. Facilitating International Dialogue
- Main driver UN E-waste Coalition
- Global E-waste Statistics Partnership
- Hosting StEP Secretariat to 2019

### 5. Co-custodian e-waste SDG indicator

# What is electronic waste?



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- All appliances working on a battery or a plug

- Valuable substance

- Toxic substances

**E-products**
Improving quality of life

**Challenges**
Sustainable consumption and production
Waste Management
Economic supply chain risks

**Need materials for:**
Clean Energy Transition
Smart Cities

**SDG**
E-waste has a sub-indicator under SDG
12.5.1 - national recycling rate
12.4.2 -  hazardous waste management

# CIS Regional E-waste Monitor

- Improve statistics of e-waste

- Analyse statistics policies and national stakeholders
  - Publication of Regional E-waste Monitor

- Countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzst Moldova, Russia, Ukraine, Uzbekistan, Tajikistan, Turkmenistan

- Funded by: German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and Umwelt Bundesamt
  - Co- funded by UNU, ISWA and ITU

- Implementation by UNU, UNEP

- In collaboration with Focal Points: Ministries of Environment, National Statistical Offices – environment Statistics, ITU Members

# Indicators for e-waste statistics

- EEE Placed on Market (kg/inh or tonnage)

- E-waste Generated (kg/inh or tonnage)

- Formal E-waste collected and recycled (kg/inh or tonnage)

- E-waste recycling rate (%)

- Based on international guidelines

## SDG 12.5.1 National recycling rate and tons of material recycled (e-waste sub-indicator)

The e-waste sub-indicator in SDG 12.5.1 has been defined as:

$$\text{SDG 12.5.1 Sub-indicator on e-waste} = \frac{\text{Total e-waste recycled}}{\text{Total e-waste generated}}$$

# Methodology for legal & policy assessment
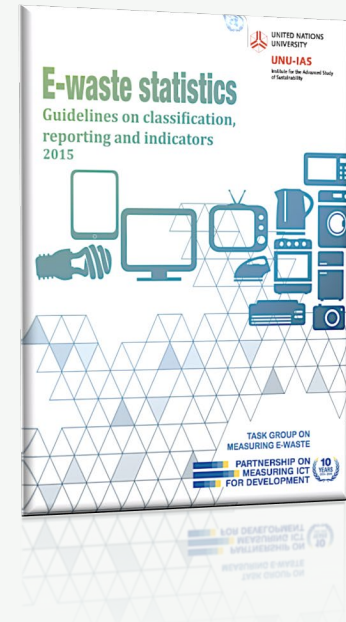
- E-waste management characteristics in country

- Map national Stakeholders

- Key statistics

- Assess legal Framework

- During project, analyse and if possible group during project in three countries
  - Starting countries
  - Emerging countries
  - Established countries

# Where are we in the project?

- **Realized**
  - Developed E-waste Statistics Toolkit + translated to Russian
  - Training on toolkit in Moscow Jan 2020 + remote assistance till May 2021
  - Second workshop in November
  - Inventory among stakeholders and literature review

- **Now**
  - Regional analysis phase + validation with countries

- **To come**
  - Final event: May 2021 + first draft of Regional e-waste monitor
  - Publication date Autumn 2021
  - New follow-up activities in preparation

# Legislation analysis

| Indicator | ARM | AZB | GEO | BLR | KAZ | KYZ | MDA | RUS | TJK | TKM | UKR | UZB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **E-waste Import Ban** | N | Y | ? | ? | Y | N | Y | ? | Y | ? | N | N | 3 Y |
| **E-waste legislation** | N | N | ? | Y | Y | N | Y | Y | N | N | D | ? | 4 Y |
| **Minamata Convention** | R | S | S | S | - | - | R | S | - | - | - | - | 4 S |
| **Basel Convention** | R | R | R | R | R | R | R | R | R | R | R | R | All |

# Preliminary Statistics

| Indicator | ARM | AZB | GEO | BLR | KAZ | KYZ | MDA | RUS | TJK | TKM | UKR | UZB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EEE POM** | 23 | 114 | 40 | 110 | 244 | 18 | 18 | 1945 | 27 | 65 | 308 | 172 | ± 3 Mt |
| **E-waste Generated** | 16 | 60 | 25 | 71 | 148 | 9 | 13 | 1473 | 13 | 31 | 266 | 120 | ± 2 Mt |
| **ESM of E-waste (formal collection)** | Close to 0 | Close to 0 | ? | 23 | 0,13 | Close to 0 | ? | 40-70 | 0,007 | Close to 0 | ? | Close to 0 | ± 0,1 Mt  0.5 % |
| **Other E-waste recycling** | No official data is available. | | | | | | | | | | | | |
| **Import and export of E-waste** | Analysis of Basel convention is under going, but data is surely under covered, and not all countries have reports | | | | | | | | | | | | |

# Country profiles


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- ■ 6 to 12 pages per country

- ■ Now in development and undergoing validation with countries



**Armenia**

**Population:** 2,958,000 inhabitants (UNDESA, 2019)

**Area:** 29,743 km²

**Borders:** Azerbaijan, Georgia, Iran, Turkey.

**GDP per capita PPP:** 14,258 USD (World Bank, 2019)

**Average size of households:** 3.8 members in 2017 (UNDESA, 2017[i]).

(Map source: United Nations Geospatial Information Section[ii])
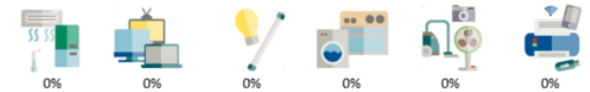
National legislation on e-waste:

| | |
|---|---|
| **Extended Producer Responsibility:** | X |
| **National e-waste standards:** | X |
| **E-waste collection target:** | X |
| **Product coverage in UNU-KEYs:** | 0 of 54. |
| **Product coverage in weight (%):** | Total: 0% of the e-waste generated. |

0%   0%   0%   0%   0%   0%

International Conventions

| | SIGNATURE | RATIFICATION/ACCESSION | ENTRY INTO FORCE |
|---|---|---|---|
| BASEL CONVENTION[iii] | | 01/10/1999 | 30/12/1999 |
| ROTTERDAM CONVENTION[iv] | 11/09/1998 | 26/11/2003 | 24/02/2004 |
| STOCKHOLM CONVENTION[v] | 23/05/2001 | 26/11/2003 | 17/05/2004 |
| MINAMATA CONVENTION[vi] | 10/10/2013 | 13/12/2017 | 13/12/2017 |

| EEE POM (2018): | E-waste generated (2018): | E-waste formally collected (2018): |
|---|---|---|
| 53 kt / 17.7 kg/inh | 14 kt / 4.7 kg/inh | 0 kt / 0 kg/inh |
| (Source: Armstat) | (Source: Armstat) | (Source: UNU/UNITAR) |

Formal / Environmentally Sound e-waste management system in place:

# Formal e-waste management

- In countries that have EPR (Belarus, Kazakhstan, Georgia, Moldova, Russia) - collection and sorting of electronic waste is mandatory. Other countries have no formal sector on e-waste (except for Uzbekistan)

- Not yet a well-developed system for collecting all e-waste (except for Belarus)

- Not sufficient processing capacity to process all e-waste

- Some exports: for instance: In Moldova, collected e-waste is sent to Romania for recycling, or specific fractions (such as printed circuit boards) to Russia.

- In parallel with the (sometimes existing official sector), there is a large non regulated (informal) sector.

- Unregulated collection and processing in all studied countries, as it is quite a profitable activity, which is associated with low operating costs compared to official processors.

- Mostly e-waste ends up in landfills with other types of waste, or ends up in the hands of illegal recyclers.

# Other e-waste whereabouts

- Repair, what can't be repaired goes to landfill

- Hoarding (storage at home), until it is discarded

- Discarded with rest of household waste, goes to landfill

- Informal / non-regulated sector → (illegal) scavenging of commercially attractive components or items, and the rest is sent to municipal waste landfills.

# Challenges for e-waste

- Various degrees of development and implementation of the regulatory legal framework

- Too little financial potential to collect and environmentally sound management of e-waste

- Little statistics on the generation and processing of e-waste for the development of feasibility studies, economic forecasts, resources in e-waste, environmental damage etc

- Vast majority of e-waste in unregulated / informal sector with simple techniques
  - Environmental damage, loss of resources

# Recommendations – Starting countries

- Kyrgyzstan, Uzbekistan, Armenia, Tajikistan, Turkmenistan (tentative)
    - Realizing basic toxic controls
    - Develop e-waste infrastructure development
    - Protection of local workers
    - Collection of the most hazardous items
    - Drafting a e-waste law and getting it passed
        - Map legislation and investigate how e-waste, and which policy model and financing mechanism fits into it

# Recommendations – emerging countries

- **Russia, Kazakhstan, Georgia, Moldova, Ukraine (tentative)**
  - expansion of the initial collection and treatment system
    - Improve collection rates
  - upgrading practices to make the system more mature and efficient
  - modernize technologies and find better treatment options
  - incentivize the recycling sector
    - Improve financing mechanism of e-waste
  - Develop a monitoring framework

# Recommendations – established countries

- Belarus (tentative)
  - Find more eco-efficient solutions, and maximize collection to cover all e-waste
    - Improve collection rates to EU levels (85% of all e-waste generated or 65% of EEE POM)
    - improve the quality of the collection and secure high level of depollution
    - Look at stumbling blocks financing mechanism of e-waste
    - stimulate an innovative recycling industry
    - adapt the financial system where it is needed
    - improve implementation and monitoring
    - Monitoring on e-waste and unregulated e-waste flows

# All actors' + fact based approach

- Stakeholder discussion based on building trust
  - Ministries, ministry of environment, customs, finance, etc
  - Recyclers
  - National Statistical Offices
  - Importers / production industry
  - Potential producer responsibility organisations
- Fact based approach
  - make first e-waste statistics on EEE POM and e-waste generated
  - Map e-waste collection
  - Map unregulated e-waste flows