



UNITED NATIONS
UNIVERSITY
UNU-VIE SCYCLE
Sustainable Cycles Programme



unitar

United Nations Institute for Training and Research

Regional E-waste Monitor for the Western Balkans

-

The importance of e-waste data and statistics

Giulia Iattoni
UNITAR – SCYCLE Programme

November 3rd, 2022



Table of contents

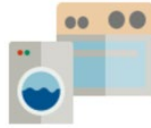
1. E-waste issues and opportunities
2. Why e-waste data are important
3. Project background
4. Project activities
5. Project mission and potential achievements
6. Successful stories
7. Promotional and awareness campaign & launching event



What is e-waste?



Temperature exchange equipment



Large equipment



Screens and monitors



Small equipment



Lamps



Small IT and Telecommunication equipment

EEE: Electrical and electronic equipment (EEE) includes a wide range of products almost any household or business are with circuitry, or electrical components with power or battery supply (Step Initiative 2014).

E-waste: refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use

E-waste environmental issues

Community exposure

- Exposure through food, water, air
- Home based workshops

Occupational exposure

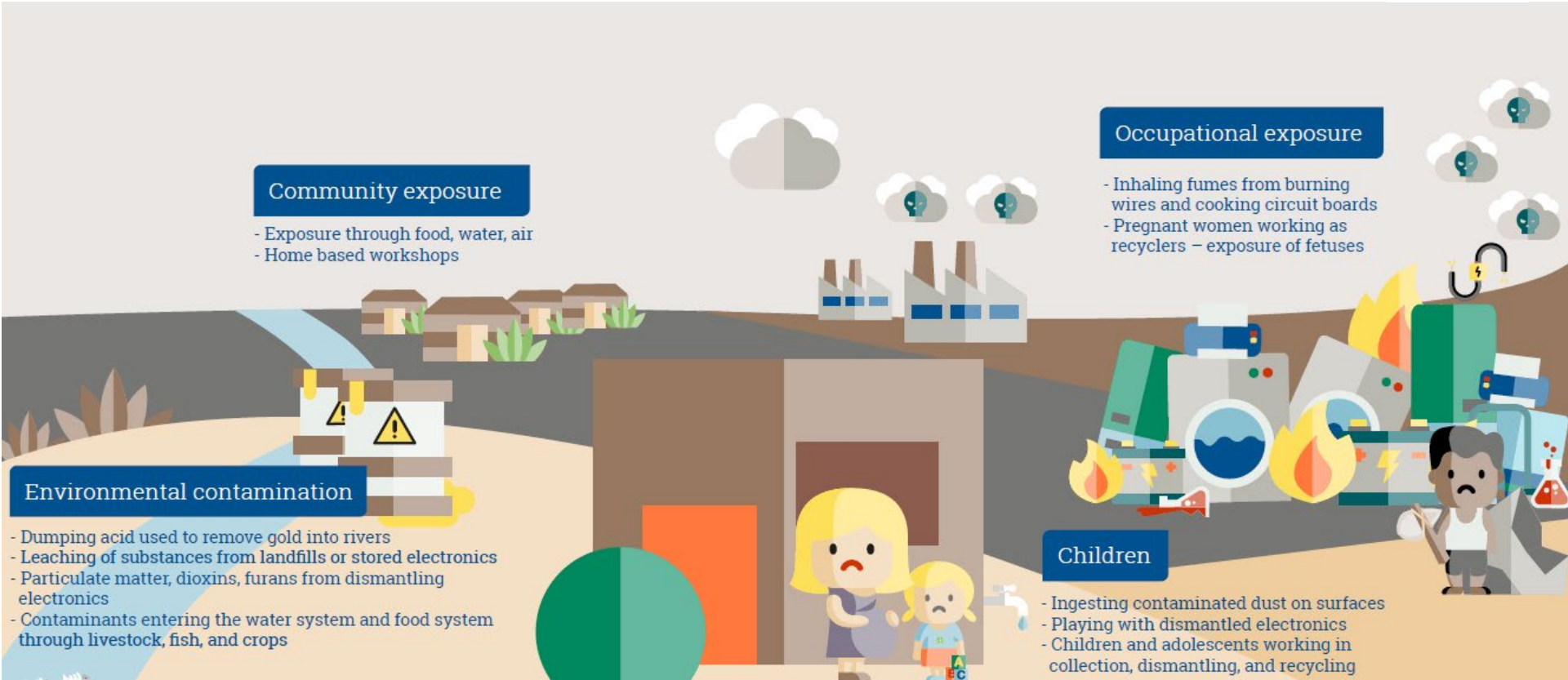
- Inhaling fumes from burning wires and cooking circuit boards
- Pregnant women working as recyclers – exposure of fetuses

Environmental contamination

- Dumping acid used to remove gold into rivers
- Leaching of substances from landfills or stored electronics
- Particulate matter, dioxins, furans from dismantling electronics
- Contaminants entering the water system and food system through livestock, fish, and crops

Children

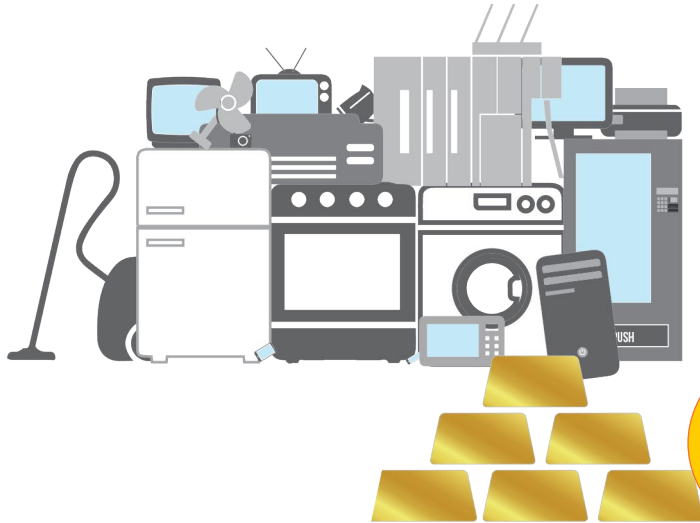
- Ingesting contaminated dust on surfaces
- Playing with dismantled electronics
- Children and adolescents working in collection, dismantling, and recycling



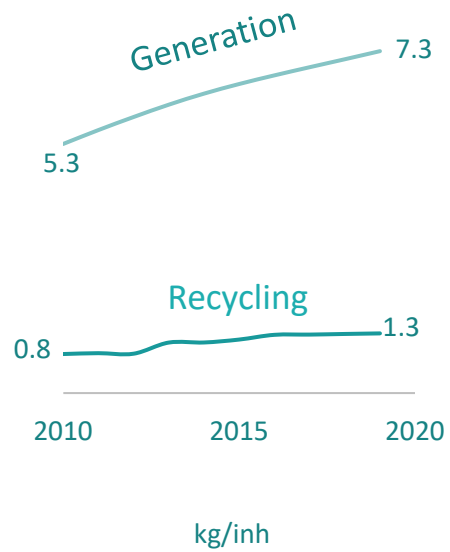
E-waste opportunities

3. Losses of valuable material

- Precious metals including gold, silver, copper, platinum and palladium
- Valuable bulky materials such as iron and aluminum, and plastics

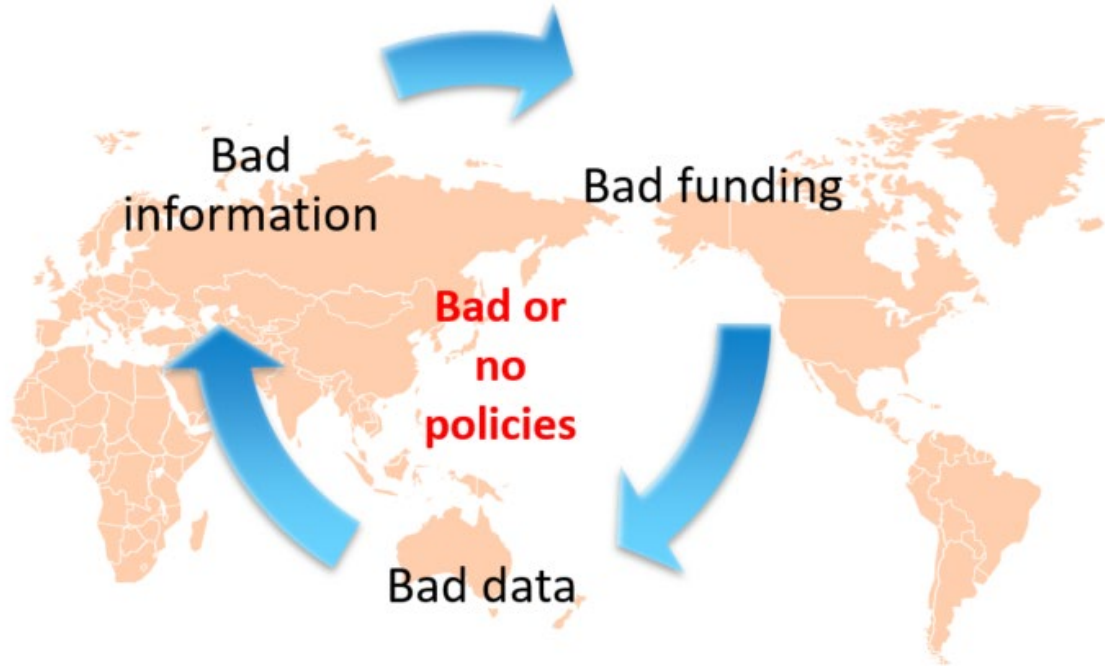


\$57 billion USD
(2019)



Global E-waste Statistics

Why data are important



- Fast growing problem
- Little data
- Link to existing statistics and e-waste related data
- Needed to capture e-waste most essential features

Why data are important

- To start addressing the e-waste challenge.
- Evaluate developments over time.
- Set and access targets.
- Identify best practices in policies.
- To improve comparability between countries.
- To serve as the basis for e-waste statistics, e-waste indicators and contribute to the SDGs (11, 12).





What's next?

... Regional E-waste Monitor for the Western Balkans



Project background

- Internationally comparable e-waste statistics and information on e-waste management in the Western Balkans is limited 
- Provide technical assistance to 5 Western Balkan countries to assess e-waste statistics 
- Implementation by ITU Europe Office, UNEP Europe Office & Vienna Office and UNITAR-SCYCLE, as well as respective administrations and statistical offices of the beneficiary countries.

Albania

Bosnia and Herzegovina

Montenegro

North Macedonia

Serbia

Project activities

Supporting NSOs to produce a regional e-waste data set for the Western Balkans.

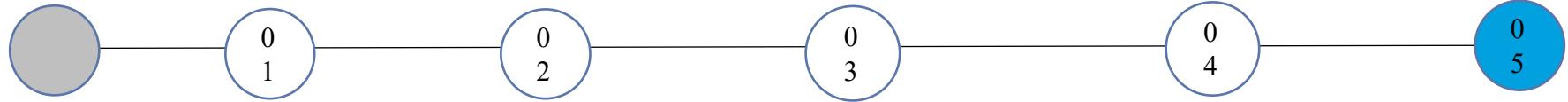
Validating country data directly with NSO focal points.

Dec 2021

Online Training

Data Validation

July 2023



Project Kick-off

Kick-off call with National Statistical Offices (NSOs), Ministries and Regulators.
Development of questionnaires and desktop study.

Research,

Questionnaires & Interviews

Assessment of the status of e-waste legislation and e-waste management.

Regional

E-waste Monitor and awareness campaign

E-waste awareness raising webinars, publishing a Regional E-waste Monitor and launch event.

Scope and outline

Statistics

Legislation

Management
infrastructure

Monitor Features



1. What is E-waste?

Definition, product categories, disposal routes,
key issues



2. Methodology

Statistics, Management Assessment,
Sources



3. Regional Overview Legislation and Systems

Status, International Agreements, Stakeholders,
Projects



4. Statistics

EEE POM and E-waste Generated, Categories,
ESM



5. Transboundary Movement

Policies, Quantities, Issues and Impacts



6. Management Assessment

Comparative Performance Review



7. Common Issues

Five Driving Reasons



8. Recommendations




9. Country Profiles

What's next?

... *Five country profiles*



Examples of country profiles



Country:

Sudan

43 222 000 inhabitants
1 886 million km²
Borders: Egypt, Eritrea, Ethiopia, the Central African Republic, Chad, Libya, South Sudan and the Red Sea

National legislation on e-waste:

Extended producer responsibility:
National e-waste standards:
E-waste collection target:
Product coverage in UNU-KEYs:
Product coverage (% weight) of total and per category: 0% 0% 0% 0% 0% 0%

International Conventions:

Signature	Ratification/Accession	Entry into force
Basel Convention	9 January 2006	09 April 2006
Rotterdam Convention	17 February 2005	18 May 2005
Stockholm Convention	23 May 2001	29 August 2006
Minamata Convention	24 September 2014	-

EEE POM (2019): 85.4 kt, 2.0 kg/inh.
E-waste generated (2019): 90.0 kt, 2.1 kg/inh.
E-waste managed environmentally soundly (2019): 0 kt, 0 kg/inh.

Formal/environmentally sound e-waste management system in place:

4 licensed organisations specialised in e-waste collection and 22 enterprises having e-waste collection points.
 30 treatment/recycling enterprises for treating and recycling e-waste.

Country:

Kazakhstan

18.7 million inhabitants
2,725,000 km²
Borders: China, Kyrgyzstan, Russia, Turkmenistan, Uzbekistan
GDP per capita PPP: \$24,904 USD
Average household size: 3.5 members

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste:

Extended Producer Responsibility:
National e-waste standards:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 35 of 54
Legislation product coverage in weight (% on total and per category): 84% 100% 12% 82% 40% 100%

International Conventions:

Signature	Ratification/Accession	Entry into force
Basel Convention	03/06/2003	01/09/2003
Rotterdam Convention	01/11/2007	30/01/2008
Stockholm Convention	23/05/2001	09/11/2007
Minamata Convention	-	07/02/2008

EEE POM (2019): 221.6 kt, 11.8 kg/inh.
E-waste generated (2019): 136.1 kt, 7.3 kg/inh.
E-waste managed environmentally soundly (2019): 11.9 kt, 0.6 kg/inh.

Formal/environmentally sound e-waste management system in place:

Introduced in January 2014.
 On management safety requirements (draft).
 Min. 30% of the EEE POM in 2021.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Country:

Peru

32.5 million inhabitants [28]
1,285,220 km²
Borders: Ecuador, Colombia, Brazil, Bolivia (Plurinational State of), Chile, Pacific Ocean
GDP per capita PPP: \$13,416 USD [29]
Average household size: 3.8 members [30]

Legislation:
Advanced:
Transition:
Basic:

National legislation on e-waste and POPs:

Extended Producer Responsibility:
National e-waste standards:
In e-waste:
E-waste collection target:
Legislation product coverage in UNU-KEYs: 17 of 54
Legislation product coverage in weight (% on total and per category): 0% 2% 0% 1% 1% 1%

International Conventions:

Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)
Rotterdam Convention [32]	11/09/1998	14/09/2005
Stockholm Convention [33]	23/05/2001	16/09/2005
Minamata Convention [34]	10/10/2013	21/01/2016

Formal/environmentally sound e-waste management system in place:

As of May 18, 2021, Peru has 6 official e-waste operators that provide e-waste in the City of Lima and in Callao.
 Peru does not have facilities that process/treat POPs arising from e-waste.

Some of the project key results



RESULT 1: FIVE COUNTRY PROFILES ELABORATED, WHICH INCLUDES AN ASSESSMENT OF THE STATUS OF E-WASTE LEGISLATION AND E-WASTE MANAGEMENT USING DESKTOP RESEARCH, QUESTIONNAIRES AND FOLLOW-UP INTERVIEWS



RESULT 2: FIVE NATIONAL STATISTICAL OFFICES (NSO) TRAINED TO PRODUCE A REGIONAL E-WASTE DATA SET FOR THE WESTERN BALKANS, INCLUDING ESTIMATES WHERE DATA MAY NOT BE AVAILABLE.



RESULT 3: VALIDATED PROFILES FOR THE FIVE COUNTRIES BY NSO THROUGH ONLINE ONE-TO-ONE FOLLOW-UP WITH EACH OF THE FIVE COUNTRIES.



RESULT 4: REGIONAL E-WASTE MONITOR FOR THE WESTERN BALKANS REPORT FEATURING COLLECTED DATA AND PUBLISHED ON THE WEBSITE OF THE GLOBAL E-WASTE STATISTICS PARTNERSHIP.

Project aims and objectives

Project **aims** to collect statistics, map the situation of e-waste management and legislation in the beneficiary countries as well as build subregional capacities in the field of e-waste monitoring and reporting.

The project has the following **objectives**:

- **Train NSOs** to produce e-waste data for **monitoring of SDG 12.5.1**.
- Contribute to the development of **internationally comparable e-waste statistics**.
- **Inform** policy makers, industries, and business about regional e-waste data.
- Support the development of national and regional counter-measures through policies, regulations, awareness raising and industrial response.



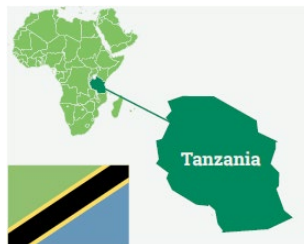
Potential achievements

Some examples

- ❖ Improve the reporting under the Basel Convention
- ❖ Introduce more regulatory tools (e.g. E-waste collection categories, targets, etc.)
- ❖ Create a national baseline for monitoring e-waste over time
- ❖ Comply with the requirements of the EU Directive 2012/19/EU
- ❖ Progressing towards the SDGs indicators



Successful stories



The outcome of the project contributed to the development of the National E-Waste Statistics Report (2019), the first-ever analytical report on e-waste in Tanzania – *National Bureau of Statistics*

E-waste study was published on the government website, and a law was developed to include guidelines on e-waste management, and introducing the EPR and the concept of circular economy.



Uses the results from the project for Basel Convention and Stockholm Convention (POPs) reporting, and OECD surveys.



Successfully calculated national e-waste data in accordance with the requirements of Directive 2012/19/EU and the Council of July 4th 2012 on Waste Electrical and Electronic Equipment – *Agency of Statistics*

Previous Regional E-waste Monitors



REGIONAL E-WASTE MONITOR

CIS + Georgia

— 2021



Authors:
C.P. Balogh, G. Iatoni, V. Lada,
I.C. Neuman, O. Pecherinskiy, R. Kuehr

Provided and supported by
United Nations University
UNU-ViE Cycle
unitar
International
Labour Office

<https://ewastemonitor.info/regional-e-waste-monitor-cisgeorgia-2021/>

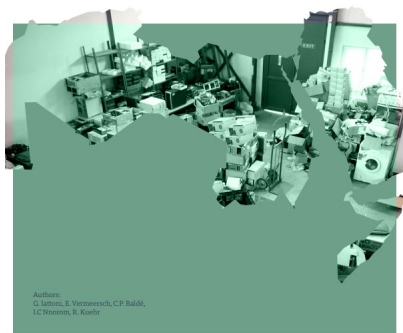
<https://ewastemonitor.info/gem-2020/>



REGIONAL E-WASTE MONITOR

for the Arab States

— 2021



Authors:
G. Iatoni, E. Vermeersch, C.P. Balogh,
I.C. Neuman, R. Kuehr

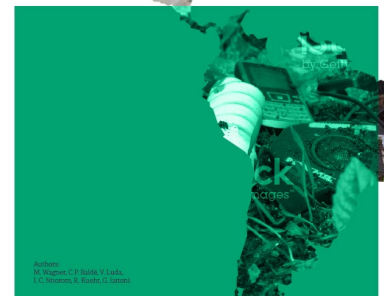
<https://ewastemonitor.info/regional-e-waste-monitor-for-the-arab-states-2021/>



REGIONAL E-WASTE MONITOR

for Latin-America, results for the 13 countries participating in project UNIDO-GEF 5554

— 2021



Authors:
M. Wuyts, C. B. Nadeu, V. Lada,
I. C. Neuman, R. Kuehr, G. Iatoni

Presented by
United Nations University
UNU-ViE Cycle
unitar
International Labour Office
Supported by
United Nations Development Organisation
ifl



https://ewastemonitor.info/wp-content/uploads/2022/01/REM_LATAM_2022_ENG_Final.pdf

Promotional and awareness campaign & launching event

National Awareness raising workshops (April-July 2023)

Focus: Providing a deep dive into the country's situation by showcasing the findings of the project.

Objectives:

- Lay the basis for **concrete follow-up** at the country level;
- Presentation of the **key national and sub-regional trends** as well as potential initiatives to be leveraged related to e-waste;
- Discussion on the **outstanding challenges** in order to priority areas to be addressed
- Identification of the type of support needed and expertise to be leveraged for potential future assistance or initiatives.

Audience: National stakeholders relevant to the e-waste sector: Ministry of ICTs, Ministry of Environment; National Statistical Office; the private sector, including recyclers and operators; others.

Thank you for your attention!



Giulia Iattoni

Assistant Programme Officer
UNITAR – SCYCLE Programme
Email: giulia.iattoni@unitar.org