# Why does e-waste matter?
Setting the context

The importance of digitalization

Project partners:

What is digitalization?

Digitalization refers to spreading, leveraging and using digital and information and communication technologies, tools and processes, to enable, improve and transform a sector (e.g., business). Digitalization thus move beyond digitization which simply refers to converting analog information into digital information.
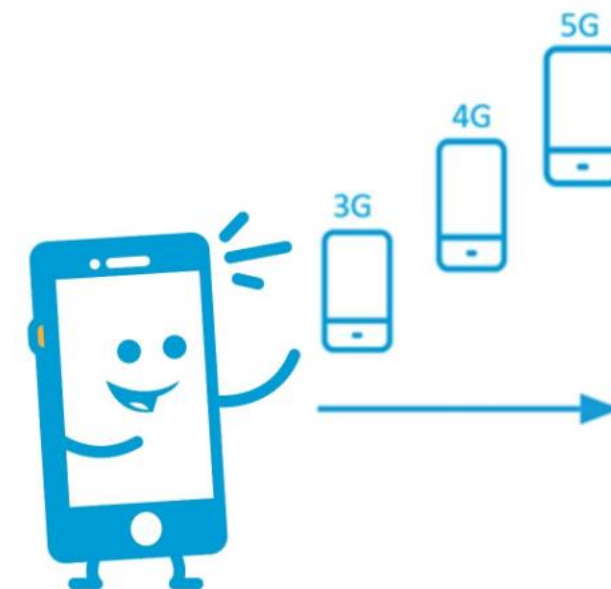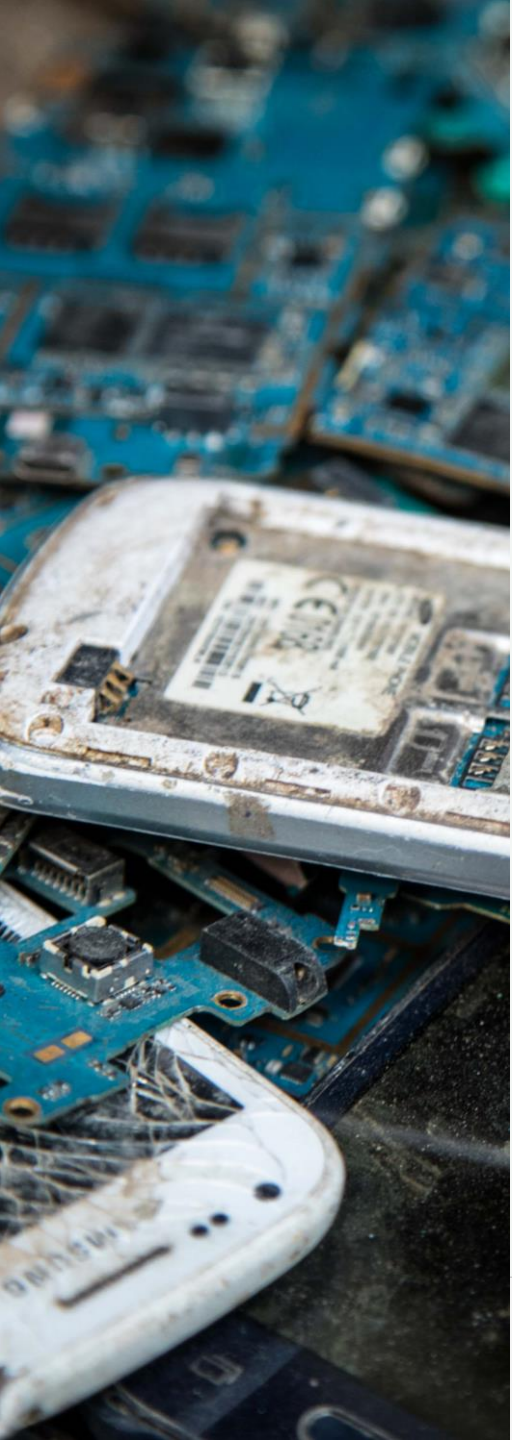
Project partners:

Global average number of selected appliances owned per capita, by country's income level

	High income	High/middle income	Middle income	Middle/low income	Low income
Average household size:	2.8	3.6	4.5	5.3	5.0
Average purchasing power parity in USD per capita:	51.581	21.697	9.874	3.503	1.261
Fridges	0.7	0.3	0.1	0.1	0.02
Laptops	1.6	0.3	0.2	0.1	0.1
Lamps	16	8	6	6	4
Washing machines	0.4	0.2	0.1	0.01	0.001
Microwaves	0.4	0.1	0.03	0.01	0.003
Mobile phone subscriptions	1.4	1.2	1	0.9	0.6

Fridges (incl. combi-fridges)
Laptops (incl. tablets)
Lamps
Washing machines (incl. combined dryers)
Microwaves (incl. combined, excl. grills)
Mobile phone subscriptions

Project partners:

ITU
UN environment programme
UNITAR — United Nations Institute for Training and Research
UNITED NATIONS UNIVERSITY
UNU-VIE SCYCLE — Sustainable Cycles Programme
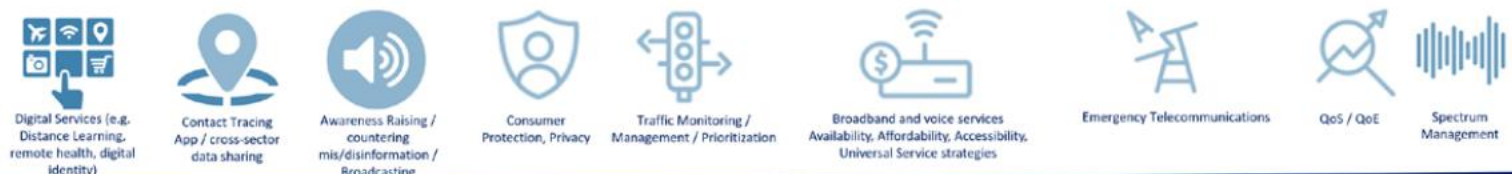
Source: Global E-waste Monitor, 2020

www.itu.int

COVID-19 Regulatory framework initiatives for the Europe region
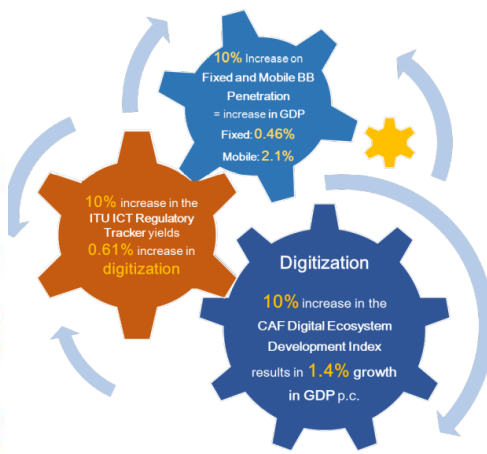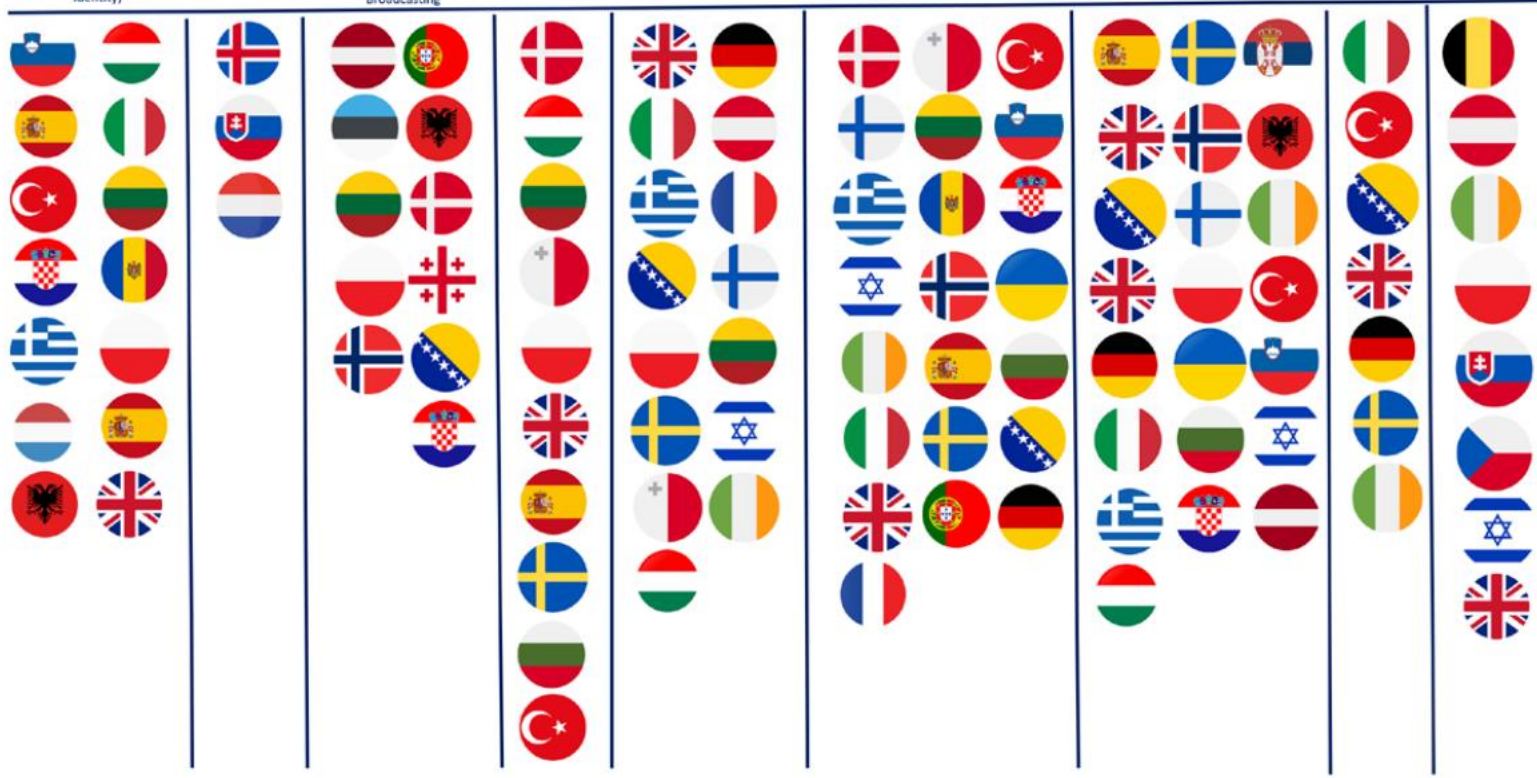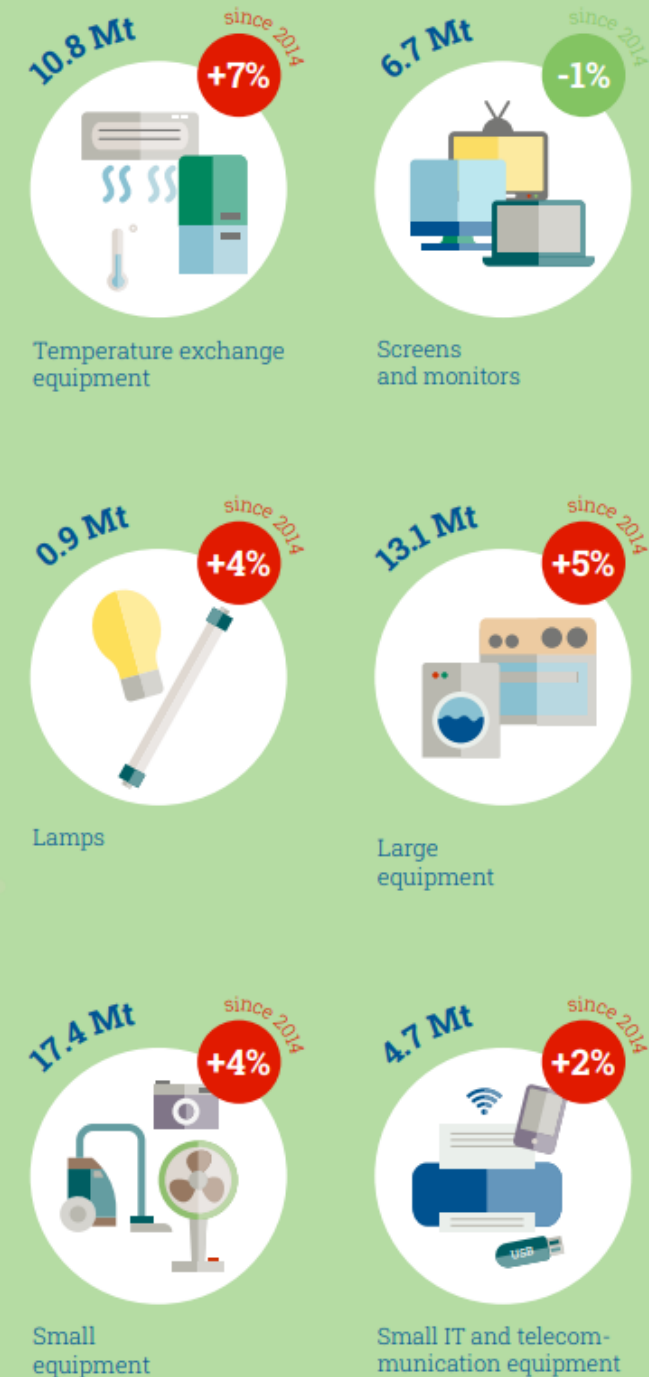

Project partners:

What is e-waste?

EEE: *Electrical and electronic equipment (EEE) includes a wide range of products. Almost any household or business are with circuity or electrical components with power or battery supply (Step Initiative 2014).*
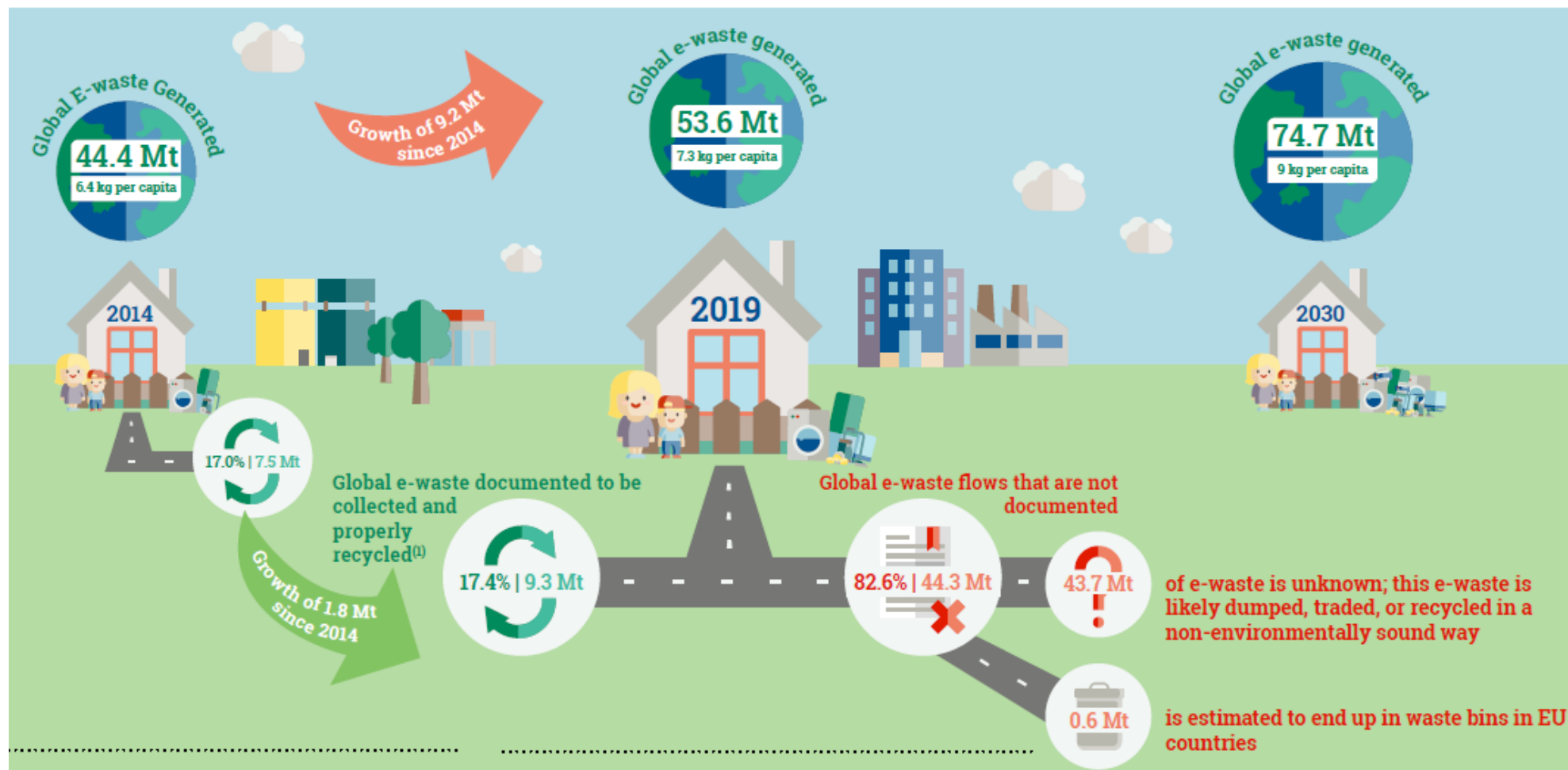
E-waste: *refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use"*
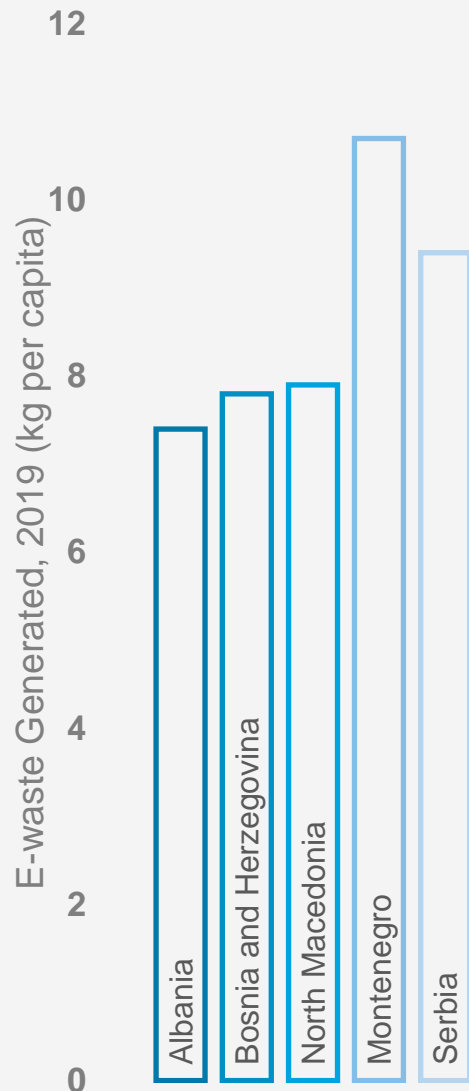
Source: Global E-waste Monitor, 2020

Project partners:

10.8 Mt +7% since 2014
Temperature exchange equipment

6.7 Mt -1% since 2014
Screens and monitors

0.9 Mt +4% since 2014
Lamps

13.1 Mt +5% since 2014
Large equipment

17.4 Mt +4% since 2014
Small equipment

4.7 Mt +2% since 2014
Small IT and telecommunication equipment

Global quantity of e-waste (2019)

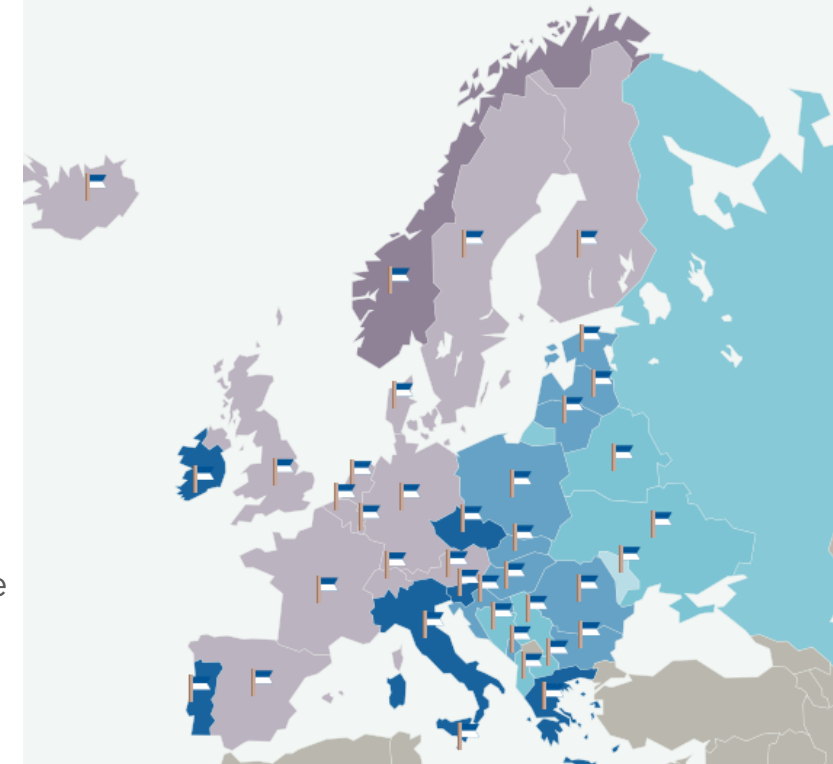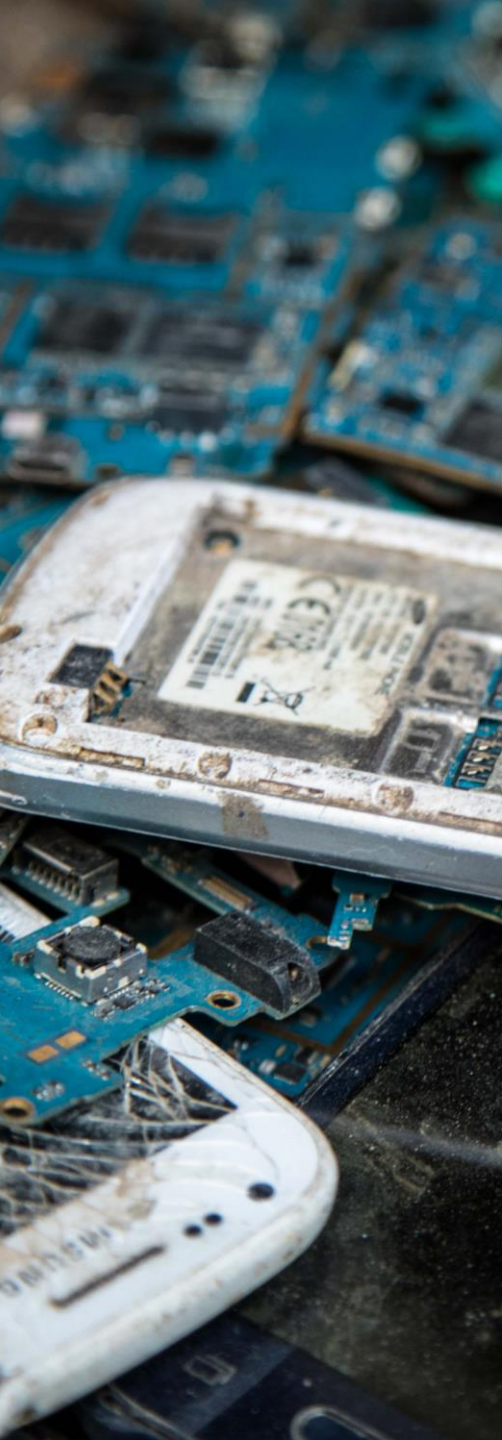www.itu.int

E-Waste status in Europe (2019)

Legend
- E-waste generated (in Mt and kg per capita)
- E-waste documented to be collected and properly recycled
- Population (in millions)

E-waste generated
- 0 to 5 kg per capita
- 5 to 10 kg per capita
- 10 to 15 kg per capita
- 15 to 20 kg per capita
- 20 to 25 kg per capita
- 25+ kg per capita

12.0 Mt | 16.2 kg per capita
e-waste generated

42.5% | 5.1 Mt
e-waste documented to be collected and properly recycled

37 countries
have a national e-waste legislation/policy or regulation in place

740 population (millions)   **39** countries analysed

E-waste Generated, 2019 (kg per capita)

12 · 10 · 8 · 6 · 4 · 2 · 0

Albania · Bosnia and Herzegovina · North Macedonia · Montenegro · Serbia

$12.9 billion USD: value of raw materials in e-waste

12.7 Mt CO₂: equivalents potential release of GHG emissions from undocumented wasted fridges and air conditioners

0.01kt: amount of mercury from undocumented flows of e-waste

11.4 kt: amount of BFR undocumented flows of e-waste

Project partners:

ITU · UN environment programme · unitar United Nations Institute for Training and Research · UNITED NATIONS UNIVERSITY UNU-VIE SCYCLE Sustainable Cycles Programme

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Thank you!

Contact:
Rosie McDonald
E-waste Data Associate Officer, ITU
rosie.mcdonald@itu.int

Sarah Delporte
Project Officer, ITU Office for Europe
sarah.delporte@itu.int

Why does e-waste matter?

The environmental issues of e-waste and the role of statistics
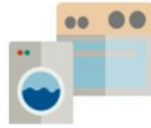
UNITAR – SCYCLE Programme

March 16th, 2022

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UNITED NATIONS
UNIVERSITY
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Sustainable Cycles Programme

unitar
United Nations Institute for Training and Research

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 circuity, 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 and opportunities

E-waste environmental issues

1. Hazardous materials in e-waste

e.g. fridges, phones, laptops, washing machines, sensors, TVs, lamps

- Heavy metals (such as mercury, lead, cadmium etc.)
- Chemicals (such as CFCs/chlorofluorocarbon or various flame retardants)

Groundwater

Soil

Air

E-waste can pose considerable environmental and health risks.
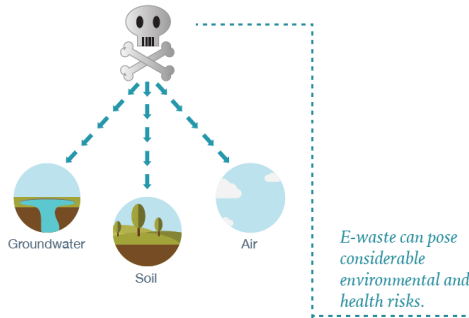
2. Impact on health

- Exposure to lead
  - Mental development of children, toxic to kidneys

- When burning PVC → dioxins
  - One of the most hazardous carcinogens (cancer)

- Hexavalent Chromium
  - Kidney, liver, DNA

- Brominated Flame retardants
  - Fetal damage

- Cadmium
  - Cancer, toxic to kidneys

Impaired Mental Development

Lung Damage

Liver Damage

Kidney Damage
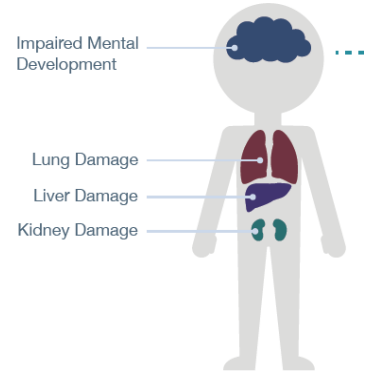
E-waste environmental issues

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
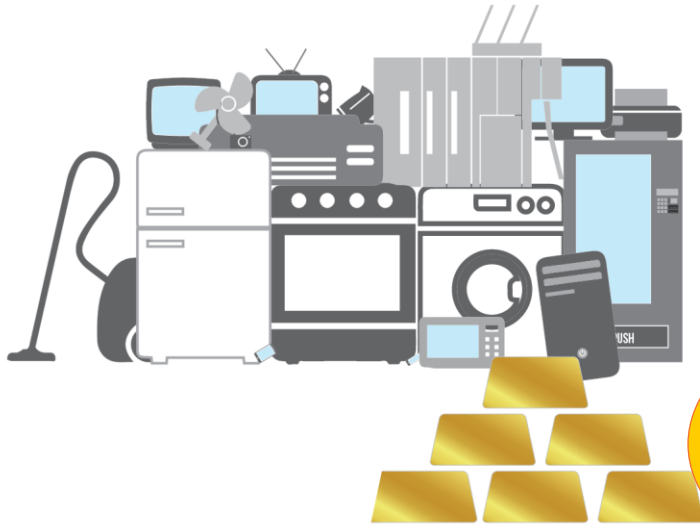
Children

- Ingesting contaminated dust on surfaces
- Playing with dismantled electronics
- Children and adolescents working in collection, dismantling, and recycling
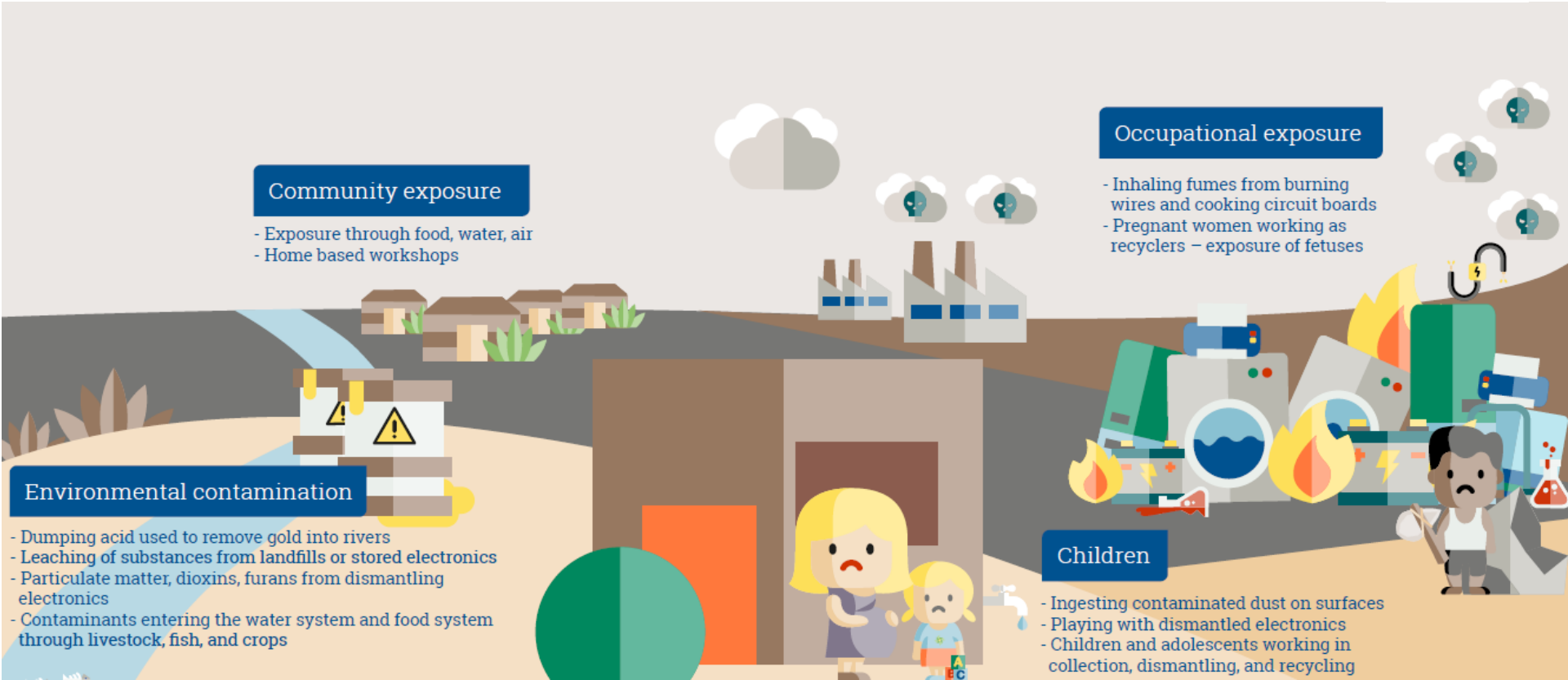
3. Losses of valuable material

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

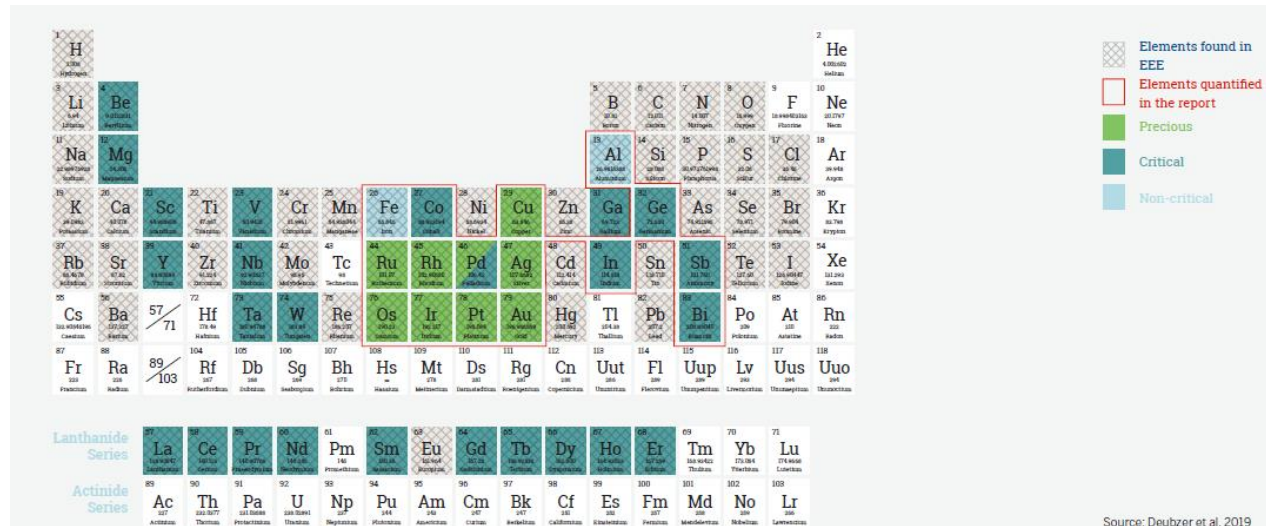**$57 billion USD**
(2019)

E-waste opportunities:

- **At least 60 elements:**

  - Base metals (Fe, Cu, Al, etc.)
  - Precious metals (Ag, Au, Co, Pd, Pt, etc.)
  - Rare earth metals (Dy, Er, Eu, Gd, Ho, La, etc.)
  - Plastics (several polymers)
  - Glass
  - ….

- **Hazardous materials**
  - Mercury
  - CFCs
  - Lead
  - Flame retardants
  - ….

Source: Deubzer et al. 2019

E-waste key data

Global E-waste Monitor: e-waste quantities

Global E-waste Generated
44.4 Mt
6.4 kg per capita

Growth of 9.2 Mt since 2014

Global e-waste generated
53.6 Mt
7.3 kg per capita

Global e-waste generated
74.7 Mt
9 kg per capita

2014

2019

2030

17.0% | 7.5 Mt

Growth of 1.8 Mt since 2014

Global e-waste documented to be collected and properly recycled[1]

17.4% | 9.3 Mt

Global e-waste flows that are not documented

82.6% | 44.3 Mt

43.7 Mt of e-waste is unknown; this e-waste is likely dumped, traded, or recycled in a non-environmentally sound way

0.6 Mt is estimated to end up in waste bins in EU countries
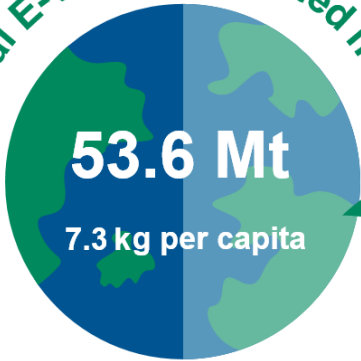
Global E-waste Monitor: e-waste quantities

0.05 kt
amount of mercury from unaccounted flows of e-waste

71 kt
amount of Brominated Flame Retardants (BFR) fom unaccounted flows of e-waste

+ 98 Mt of CO_2 equivalents
potentially released from the inferior recycling of undocumented fridges and air-conditioners
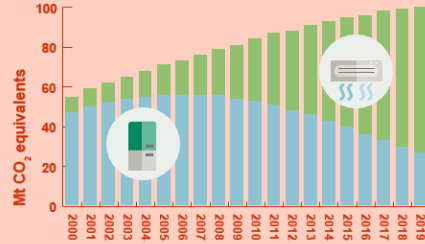
82.6% of e-waste flows is not documented

Mt CO_2 equivalents

100 — 80 — 60 — 40 — 20 — 0

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Global E-waste Generated in 2019

53.6 Mt

7.3 kg per capita

17.4% documented: collected/properly recycled

$10 billion USD
potential value that could berecovered

4 Mt
estimated amount of raw materials that could beavailable for recycling

-15 Mt of CO_2 equivalents
their reuse as secondary products has helped save up to 15 Mt of CO_2 equivalents emissions

aluminium

copper

iron

Global E-waste generation

E-waste status by continent

Europe

12 Mt (16.2 kg per capita)
e-waste generated

5.1 Mt | 42.5%
e-waste documented
to be collected and
properly recycled

Asia

24.9 Mt (5.6 kg per capita)
e-waste generated

2.9 Mt | 11.7%
e-waste documented
to be collected and
properly recycled
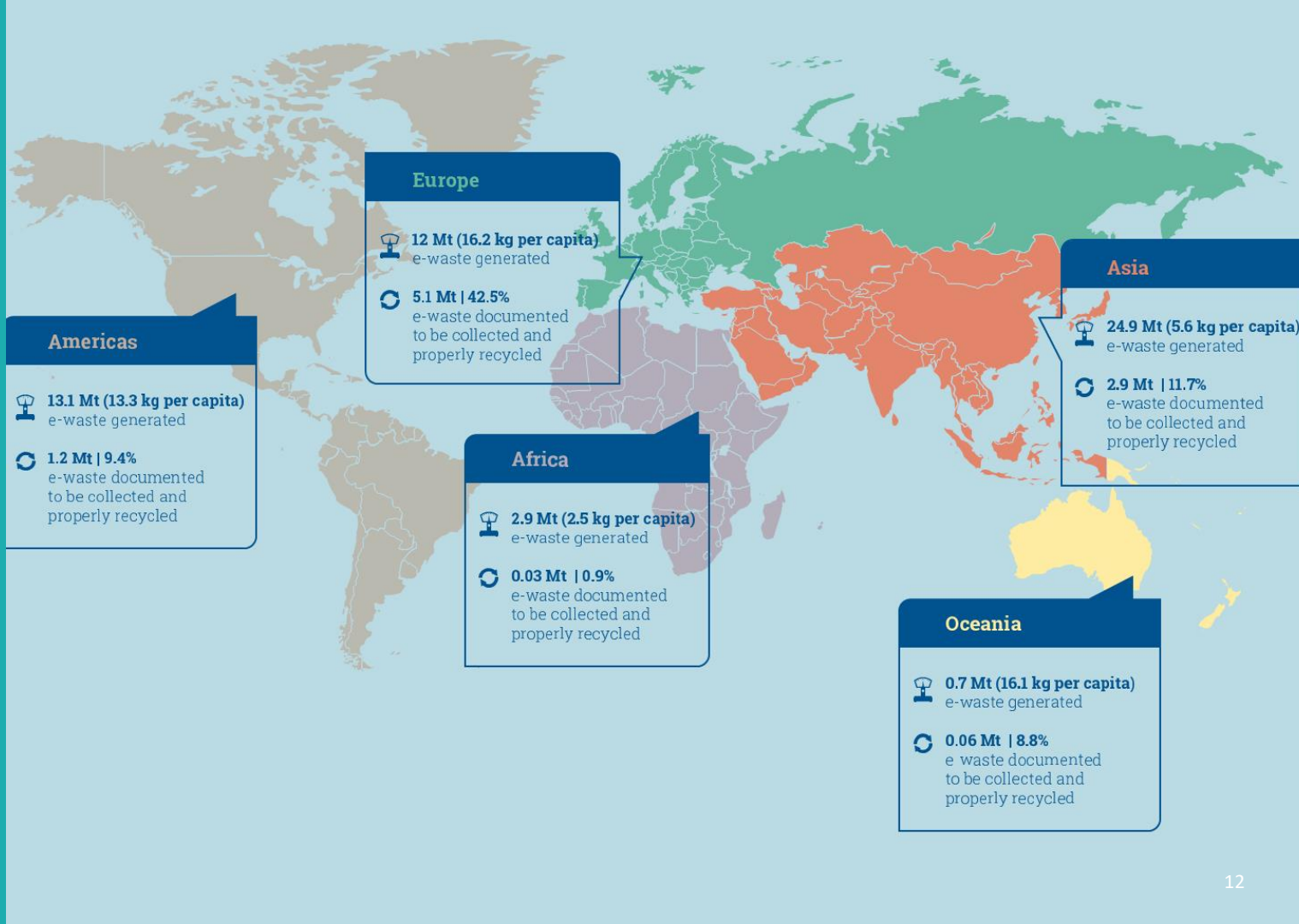
Americas

13.1 Mt (13.3 kg per capita)
e-waste generated

1.2 Mt | 9.4%
e-waste documented
to be collected and
properly recycled

Africa

2.9 Mt (2.5 kg per capita)
e-waste generated

0.03 Mt | 0.9%
e-waste documented
to be collected and
properly recycled

Oceania

0.7 Mt (16.1 kg per capita)
e-waste generated

0.06 Mt | 8.8%
e waste documented
to be collected and
properly recycled

Generation

7.3

5.3

Recycling

0.8   1.3

2010   2015   2020
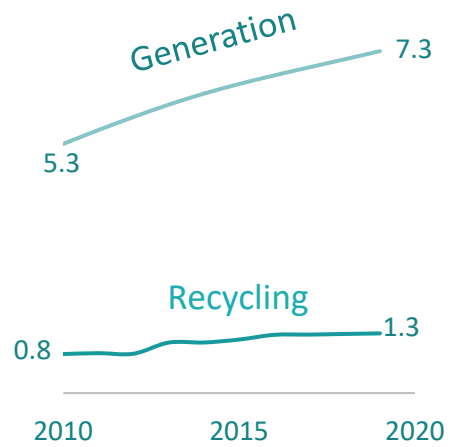
Global E-waste Statistics

Raw materials, BFR and CO2 eq. in e-waste: regional quantities

Arab States

IN 2019, E-WASTE GENERATED IN THE REGION CONTAINED:

- 4.1 t mercury
- 1.3 t cadmium
- 10.5 kt lead
- 4 kt brominated flame retardants
- 6.3 Mt of CO2-eq. due to refrigerants
- 13 t gold
- 0.47 t of rare earth metals
- 1.05 Mt of iron
- 96 kt copper
- 167 kt aluminum
- 0.7 kt of cobalt
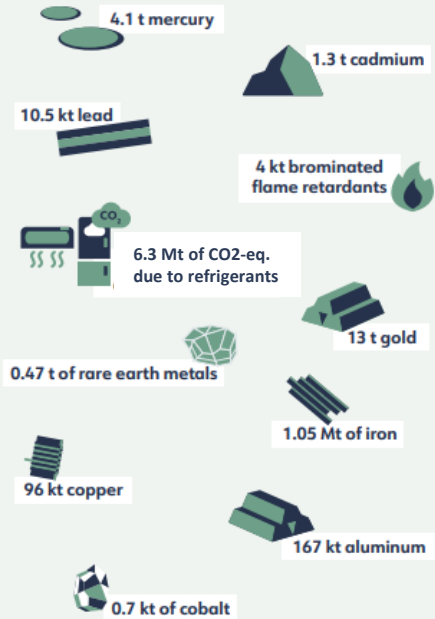
CIS + Georgia

THE REGIONAL GENERATED E-WASTE CONTAINS:

- 2.4 t mercury
- 1.1 t cadmium
- 8.1 kt lead
- 4 kt brominated flame retardants
- 5.6 Mt of CO2-eq. due to refrigerants
- 10 t gold
- 0.5 t of rare earth metals
- 1 Mt of iron
- 85 kt copper
- 136 kt aluminum
- 0.7 kt of cobalt
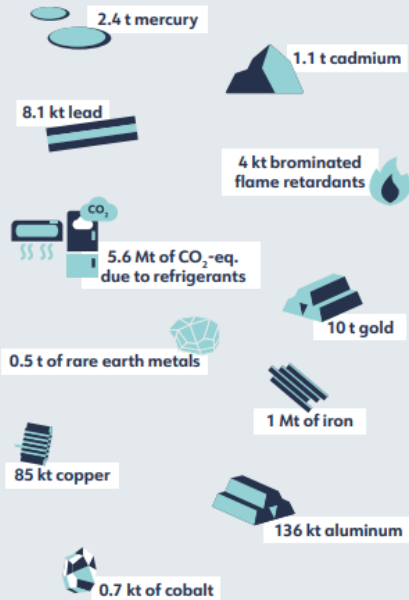
Latin America

THE REGIONAL GENERATED E-WASTE CONTAINS:

- 2.2 t mercury
- 0.6 t cadmium
- 4.4 kt lead
- 4.0 kt brominated flame retardants
- 2.9 Mt of CO2-eq. due to refrigerants
- 7 t gold
- 0.31 t of rare earth metals
- 591 kt of iron
- 54 kt copper
- 91 kt aluminum
- 0.7 kt of cobalt

14
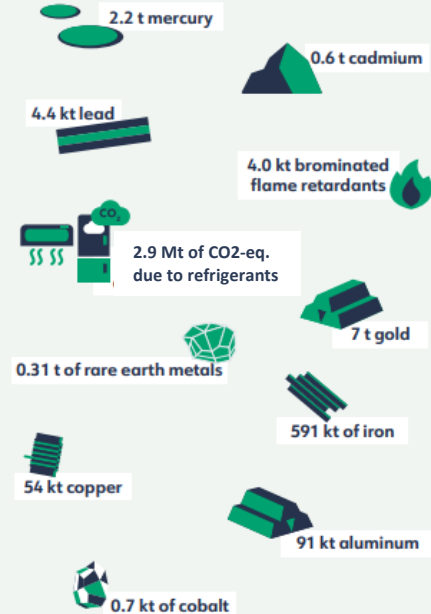
E-waste quantities and recycling rate

Arab States

Generation

6.6

4.9

2010   2015   2020
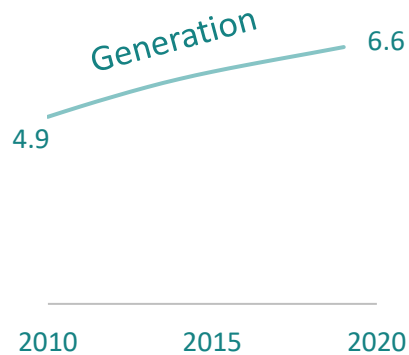
0.1%

e-waste
collection rate

CIS + Georgia

Generation

8.7

6.0

2010   2015   2020
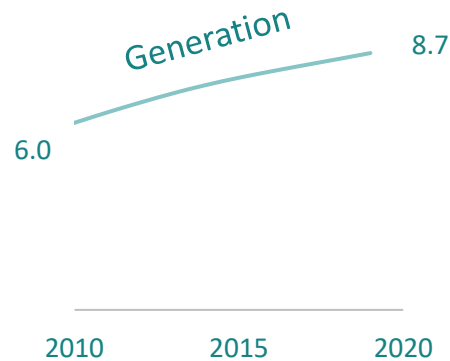
3.2%

e-waste
collection rate

Latin America

Generation

6.7

4.7

2010   2015   2020
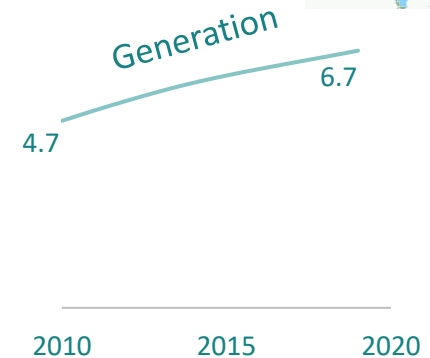
2.7%

e-waste
collection rate

The role of statistics

Why data are important

Bad information → Bad funding → Bad data → Bad information (cycle)

Bad or no policies
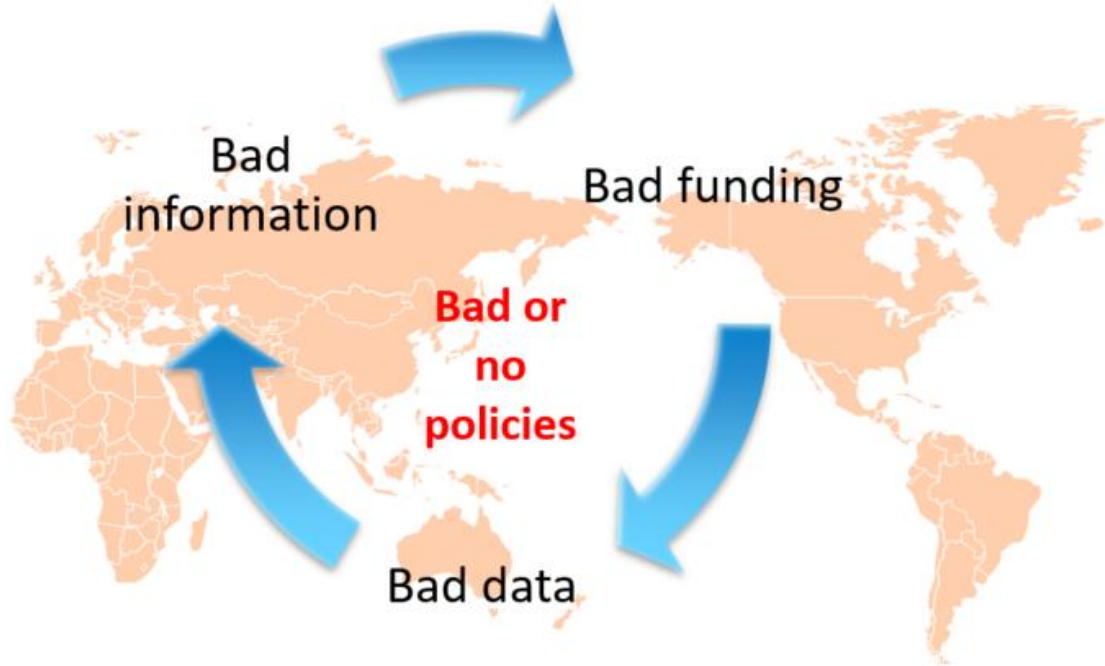
- Fast growing problem
- Little data
- Link to existing statistics and e-waste related data
- Needed to capture e-waste most essential features

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.

Harmonized framework to measure e-waste

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

More details later...

Thank you for your attention!

Giulia Iattoni

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

Kees Baldé

**Senior Scientific Specialist
UNITAR – SCYCLE Programme
Email: balde@unitar.org**

SDG Indicator 12.5.1
"National recycling rate, tons of material recycled"

Relevance of E-waste data for SDGs

Dany Ghafari
16 March 2022

Introduction

- By 2050, the world's population is expected to rise from 7 to nearly 10 billion people, resulting in a significant increase in waste generation, especially in cities.
- However, many countries and cities do not yet have the capacity to properly collect, transport, treat, and dispose of their waste, which can lead to:
  - ➢ Spread of disease
  - ➢ Flooding from blocked drainage
  - ➢ Environmental pollution
  - ➢ Emission of Greenhouse Gases
  - ➢ Unwanted sights and odours

E-waste Introduction

- The main lifecycle of EEE into e-waste, and the waste management that generally occurs, can be summarized into 4 distinct phases:

  Phase 1: Market Entry
  Phase 2: Stock
  Phase 3: E-waste Generated
  Phase 4: E-waste Management

Composition of e-waste

Electronic waste:
- Monitors
- Televisions
- Computers, telephones, fax, printers, etc.
- DVD/VCR players, CD players, radios, Hi-Fi sets, etc.

Electric waste:
- Refrigerators
- Washing machines, dryers, air-conditioners, vacuum cleaners, coffee machines, toasters, irons, etc.

Source: UNEP/GRID-Arendal, 2006a [61]
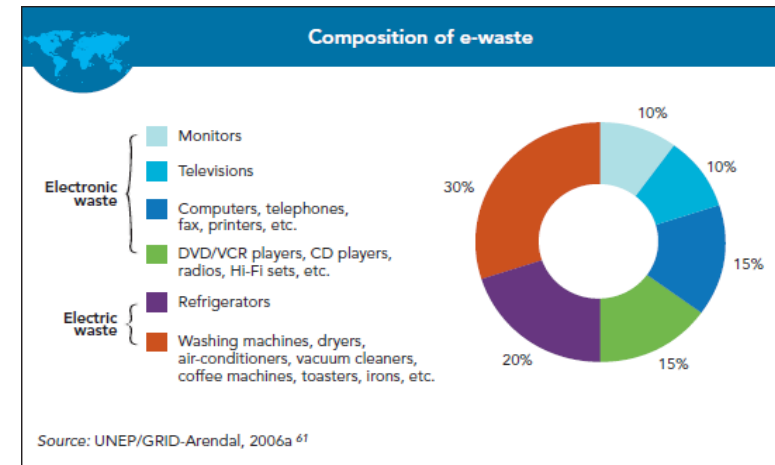
- "E-waste is a growing global challenge that poses a serious threat to the environment and human health worldwide", said Stephan Sicars, Director of the Department of Environment at the UN Industrial Development Organization.

- The world produces as much as 50 million tonnes of electronic and electrical waste (e-waste) a year, weighing more than all of the commercial airliners ever made. Only 20% of this is formally recycled.

E-waste data and the SDGs

The production of the E-waste data using global agreed methodology will:

- Enhance visibility of the waste management policy at national, regional and global levels

- Support Policy Makers at national level to build sustainable waste management focusing on reducing waste generation through prevention, reduction, recycling and reuse

- Reduce the data gap by enabling countries to report to Multilateral Environmental Agreements (MEAs) and to the 2030 Agenda for Sustainable Development

- Provide comparable analysis about the status of E-waste at regional and global levels

Thank you!

Dany Ghafari
SDG and Environment Statistics Unit, Science Division
dany.ghafari@un.org

United Nations Avenue, Gigiri
PO Box 30552 – 00100 GPO Nairobi, Kenya

www.unep.org

Regional E-waste Monitor for the Western Balkans

Project Overview

Project partners:

The Global E-waste Statistics Partnership

Global E-waste Database

Collecting country data and building a global e-waste database to track changes over time.

Creating Awareness

Enhancing understanding, interpretation of global e-waste data.

Capacity Building

Building national and regional capacity to help countries produce reliable and comparable e-waste statistics.

Monitor E-waste Streams

Monitoring e-waste streams to inform the SDGs 11.6 and 12.5 and track the ITU Connect 2030 target 3.2.

The Global E-waste Monitor 2020
Quantities, flows, and the circular economy potential

Authors: Vanessa Forti, Cornelis Peter Baldé, Ruediger Kuehr, Garam Bel

ITU · UN environment programme · UNITAR United Nations Institute for Training and Research · UNITED NATIONS UNIVERSITY · UNU-VIE SCYCLE Sustainable Cycles Programme

E-waste Generated, 2019 (kg per capita)

- Albania
- Bosnia and Herzegovina
- North Macedonia
- Montenegro
- Serbia

www.globalewaste.org

Project background

- Provide technical assistance to 5 Western Balkan countries to assess e-waste statistics, e-waste management practices and the e-waste legislation landscape to produce a Regional E-waste Monitor report.
    - Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia.

- Internationally comparable e-waste statistics and information on e-waste management in the Western Balkans is limited.

- Within the framework of data and statistics support provided by the Global E-waste Statistics Partnership.

- Builds foundations for making digitization and digitalization processes green and sustainable.

Project partners:

ITU

UN environment programme

unitar
United Nations Institute for Training and Research

UNITED NATIONS UNIVERSITY
UNU-VIE SCYCLE
Sustainable Cycles Programme

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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 National Focal Points to produce e-waste data for monitoring of SDG 12.5.1.

- Access recycling opportunities from e-waste, pollutants and e-waste related health effects to help identify and share best practices in the region.

- Contribute to the development of internationally comparable e-waste statistics.

- The Regional E-waste Monitor will:
  - Analyse trends in transboundary movement of e-waste.
  - 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.

Project activities and expected roles

Dec 2021

Online Training (April 2022)

Data Validation

July 2023

01 — 02 — 03 — 04 — 05

Project Kick-off

Research, Questionnaires & Interviews

Regional E-waste Monitor and awareness campaign

Objectives

- Produce the regional e-waste data set for the Western Balkans;
- Enhance the understanding and interpretation of regional e-waste data for policymakers, industries, and businesses which in turn will allow relevant stakeholders and the general public to be better informed about the e-waste challenge in the region;
- Train national focal points of each of the five beneficiary countries to produce e-waste data for the SDG 12.5.1 monitoring.

Expected roles

- Take part in the online training;
- Engage additional relevant stakeholders in the training;
- Circulate key information among the team members;
- Support the elaboration of data set through data collection and estimation, including by contacting relevant national institutions;
- Anchor data collection practices in the institutional setting.

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Project activities and expected roles

Dec 2021

Online Training

Data Validation

July 2023

01   02   03   04   05

Project Kick-off

Research, Questionnaires & Interviews (April-June 2022)

Regional E-waste Monitor and awareness campaign

Objectives

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

Expected roles

- Identify relevant stakeholders to take part in the questionnaire/ interview;
- Take part in the questionnaire and/or liaise with necessary stakeholders to provide the information;
- Take part in interview and/or facilitate contact with relevant national focal points and setting of interview.
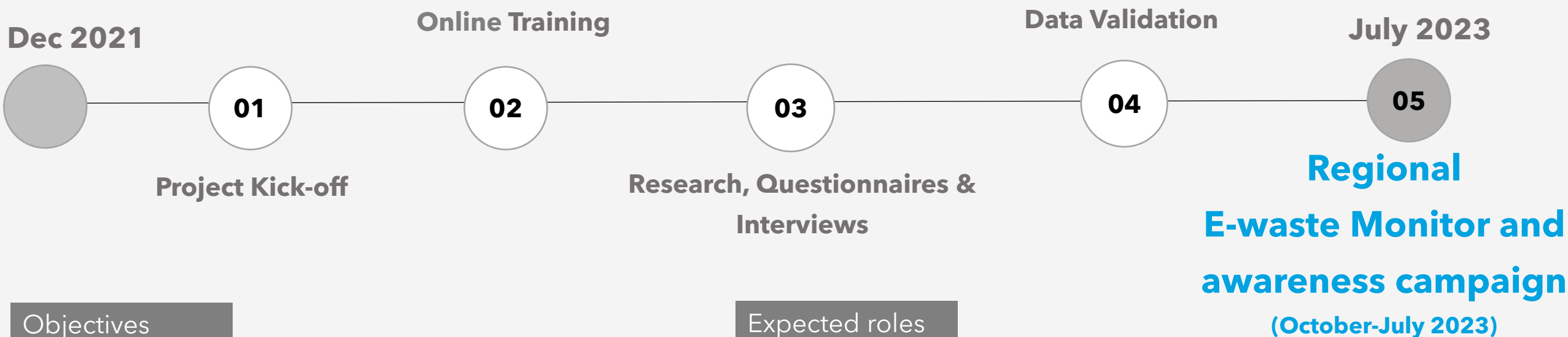
Project activities and expected roles

Dec 2021

Online Training

Data Validation **(July-October 2022)**

July 2023

01 — 02 — 03 — 04 — 05

Project Kick-off

Research, Questionnaires & Interviews

Regional E-waste Monitor and awareness campaign

Objectives

Receive approval on the inclusion and interpretation of the data in the country profiles.

Expected roles

- Validate the data, including through liaising with relevant national stakeholders;
- Take part in the remote one-to-one virtual validation meeting.
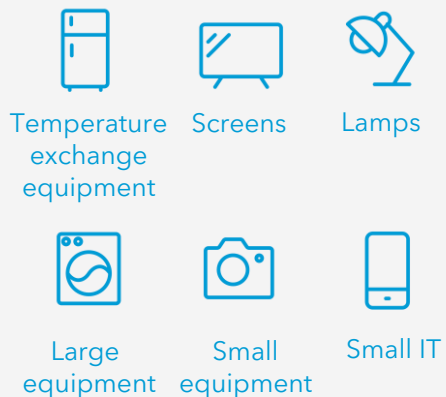
Project activities and expected roles

Dec 2021

Online Training

Data Validation

July 2023

○   **01** ── **02** ── **03** ── **04** ── **05**

Project Kick-off

Research, Questionnaires & Interviews

Regional E-waste Monitor and awareness campaign
(October-July 2023)

Objectives

- Drafting, final review, publication and launch of the Regional E-waste Monitor: Western Balkans report;
- Make the data available on the website of the Global E-waste Statistics Partnership;
- Raise awareness of stakeholders on e-waste, related challenges and opportunities.

Expected roles

- Take part in the different meetings;
- Final validation of the Report;
- Inform national stakeholders of the report's launch and related materials (i.e., publication on website, relaying of information through social media channel or newsletter etc.);
- Identify relevant stakeholders to be invited to the launching events.

Project impact

- Help to improve data availability and quality.

- Produce internationally comparable e-waste statistics.

- Assist the beneficiary countries in making digitalization policies and strategies green and sustainable as well as based on evidence.

- Increase regional capacities on e-waste statistics for government officials, statisticians and other stakeholders such as industry essential for the sound environmental management of e-waste.

- Alignment with EU standards within the framework of the pathway towards EU accession.

Temperature exchange equipment

Screens

Lamps

Large equipment

Small equipment

Small IT

The 6 categories of EEE commonly referred to in regulation that end as e-waste.

Thank you!

Contact:
Rosie McDonald
E-waste Data Associate Officer, ITU
rosie.mcdonald@itu.int

Sarah Delporte
Project Officer, ITU Office for Europe
sarah.delporte@itu.int

Overview of the project, main milestones and roles and responsibilities

UNITAR – SCYCLE Programme

March 16th, 2022

Table of contents

1. Training workshop on e-waste statistics and data collection;

2. Elaboration of the country profiles and example from previous monitors;

3. Elaboration of the Regional E-Waste Monitor report;

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… Training workshop on e-waste statistics and data collection

Worldwide data harmonization by the GESP

Regions that participated in e-waste statistics workshops between 2017 and 2020:

361 people have been trained on e-waste statistics

60 countries participated in e-waste statistics workshops

9 countries (apart from EU countries) have started compiling national e-waste statistics

Eastern Europe

CIS region

Arab states

East Africa

Latin America

Information on the training workshop

- 3 days workshop

- April

- Remote setting

- Platform: Zoom

- What to bring: laptop with a recent version of MS Excel, PowerPoint and Word

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Topics covered

- E-waste and its challenges

- General principles of e-waste statistics

- How to quantify EEE put on the market and E-waste generated

- E-waste Toolkit: what it is, how to use it

- How to quantify the e-waste flows

- National roadmap to produce e-waste statistics

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Preliminary draft agenda

Draft version

Day 1		
Time	**Presentation**	**Speaker**
9.00-9.20	Welcome remarks and platform instructions	UNITAR, ITU, UNEP
9.20-9.30	Roundtable introduction	All
9.30-9.45	Agenda of the online workshop and workshop objectives	UNITAR
Session 1: General principles on e-waste statistics		
9.45-10.15	General introduction to e-waste	UNITAR
10.15-11.00	Initial assessment of the e-waste situation and data in the countries	Delegates
Break		
11.15-11.45	General principles of e-waste statistics	UNITAR
11.45-12.15	How to determine EEE Put on Market and E-waste generated	UNITAR
12.15-13.10	Activity 1: availability of country EEE POM and E-waste generated data - trade statistics (import, export), sales, stocks, lifetimes & how to get data	Delegates
13.10-13.20	Open discussion	All

Day 2		
Time	**Presentation**	**Speaker**
9.00-9.15	Recap from Day 1	UNITAR
Session 2: E-waste Toolkit		
9.15-9.45	E-waste Toolkit: EEE Put on Market Tool	UNITAR
9.45-10.15	Activity 2: on how to use the EEE Put on Market Tool	Delegates
10.15-10.45	E-waste Toolkit: E-waste Generated Tool	UNITAR
Break		
11.00-11.45	Activity 3: on how to use the E-waste Generated Tool	Delegates
11.45-12.15	Overarching questions and tips on how to use the E-waste Toolkit	UNITAR
Session 3: E-waste flows		
12.15-12.40	E-waste collected and recycled	UNITAR
12.40-13.20	E-waste imports and exports	UNITAR
13.20-13.30	Wrap-up	UNITAR

| Day 3		
Time	**Presentation**	**Speaker**
9.00-9.15	Recap from Day 2	UNITAR
9.15-10.00	Activity 4: availability of country data & how to get data (from formal and informal sector)	Delegates
10.00-10.15	Open discussion	All
Break		
Session 4: E-waste Roadmap		
10.30-11.30	Development of a roadmap to produce e-waste statistics	Delegates
11.30-12.30	Presentation on the roadmap developed	Delegates
12.30-13.00	Recommendations and next steps	UNITAR, ITU, UNEP
13.00-13.15	Closure	UNITAR, ITU, UNEP

Training material

- *E-waste Toolkit*
  1) *EEE Put on the Market Tool (Excel file)*
  2) *E-waste generated Tool (Excel file)*
  3) *Manuals on the use of the tools*
  4) *E-waste statistics guidelines*

- *PowerPoint presentations*
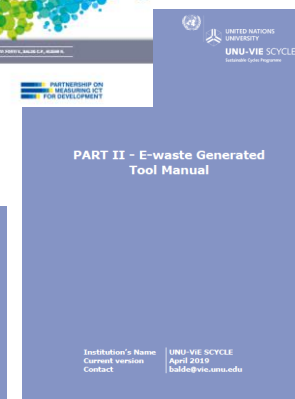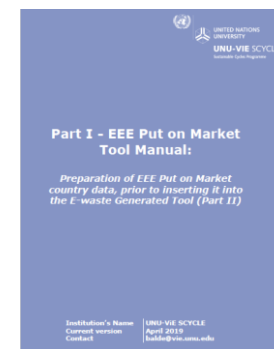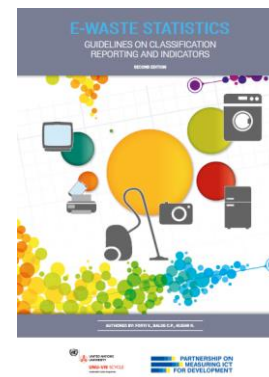
Objectives of the training

- Build **national capacity** and skills in **e-waste statistics principles** and core indicators,

- Improve the quality, understanding, collection and interpretation of **e-waste data**,

- Support the independent production of **internationally comparable e-waste statistics** in the region,

- Contribute to the achievement of the **SDGs**,

- Bringing together different stakeholders to **enhance national and international cooperation** and collaboration,

- Make a **roadmap** for compiling e-waste statistics in the region.

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Data collection

Questionnaire

Questionnaire on e-waste statistics, legislation, management and transboundary movement

Country:	
Respondent:	
Contact:	
Institution:	
Current version:	February 2022
Responsible:	Giulia Iattoni (giulia.iattoni@unitar.org)

Goal

The aim of this questionnaire is to communicate the current status of e-waste statistics, legislation and management in the country.

Contents

Sheet name	Contents
Glossary	Definitions of e-waste terms
E-waste_Statistics	Summary of e-waste statistics in the country
E-waste_Legislation	Questions related to the country's legislation on e-waste in the country
E-waste_Management	Questions related to current practices of e-waste management per country
E-waste_TBM	Questions related to the status of transboundary movement of e-waste (and used EEE) in the country
General questions	More general questions on projects/initiatives/studies on e-waste in the country, personal views etc.
UNU-KEY_Correlation	Correlation table between UNU-KEYs and the e-waste categories

Questionnaire developed by

United Nations Institute for Training and Research

In the framework of the *Regional E-waste Monitor for the Western Balkans* project

For more information on UNITAR SCYCLE's activities, please refer to:
www.globalewaste.org
https://www.scycle.info/
https://ewastemonitor.info/

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Data collection

Content of the questionnaire

1) **Glossary**: univocal definitions of some essential concepts (EEE, POM, formal and informal sectors, etc.)

2) **E-waste Statistics**: generation, import, export and recovery of e-waste per year.

3) **E-waste Legislation**: presence, extent and scope of e-waste legislation in the country regarding management, import and export, and agencies in charge for it.

4) **E-waste Management**: current practices and recycling capacity of the country in the formal and informal sectors.

5) **Transboundary Movement:** status of transboundary movement of e-waste (and used EEE) in the country

6) **General questions:** projects/initiatives/studies on e-waste in the country, personal views etc.

7) **UNU-KEY Correlation**: description and link with the EEE categories under EU-6 and EU-10.

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... Five country profiles

Examples of country profiles

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:
●●●●●

Infrastructure:
●●

Collection Rate:
● 8.8 %

Legend:
- ● Advanced
- ● Transition
- ● Basic

National legislation on e-waste:

- Extended Producer Responsibility: ✔ Introduced in January 2016
- National e-waste standards: ✔ On management safety requirements (draft)
- E-waste collection target: ✔ Min. 30% of the EEE POM in 2021
- Legislation product coverage in UNU-KEYs: 35 of 54
- Legislation product coverage in weight (%) on total and per category: Total: 77% of the e-waste generated in 2019

84% | 100% | 12% | 82% | 60% | 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	07/02/2008
Minamata Convention	-	-	-

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

(Source: Bureau of National Statistics / State Cadastre of Production and Consumption Waste)

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

- ✔ 4 licenced organisations specialised in e-waste collection and 22 enterprises having e-waste collection points.
- ✔ 30 treatment/recycling enterprises for treating and recycling e-waste.
- ✔ 15 cities covered.

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: 0 of 54
- Product coverage (% weight) of total and per category: 0% of e-waste generated

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	27 November 2006
Minamata Convention	24 September 2014		

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

(Source: UNU / UNITAR)

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

EEE Placed on Market (2019):	E-waste generated (2019):	E-waste formally collected (2019):
244 kt. 7.5 kg/inh.	195 kt. 6.0 kg/inh.	3 kt. 0.1 kg/inh.

(Source: Ministry of Environment / UNU / UNITAR)

Generated e-waste plastic:	Generated BFRs from e-waste:
56 kt. 1.7 kg/inh.	5 kt. 0.2 kg/inh.

(Source: UNDP / UNU / UNITAR)

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

- ✔ As of May 18, 2021, Peru has 6 official e-waste operators that provide service for 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]

Map source: United Nations Geospatial Information Section

E-waste Management:
- Legislation: ●●●●
- Infrastructure: ●●
- Collection Rate: 1.5%

E-waste POP Management:
- Legislation: ●●●
- Infrastructure: ●●●
- Collection Rate: 0%

Legend:
- ● Advanced ● Transition ● Basic
- Each indicator is one circle.

National legislation on e-waste and POPs:

- Extended Producer Responsibility: ✔ Introduced in 2017
- National e-waste standards: ✔ Introduced in 2012, on the generation, collection, classification, storage, and treatment of screens
- National standards for POPs contained in e-waste: ● In development
- E-waste collection target: ● For some collection categories
- Legislation product coverage in UNU-KEYs: 17 of 54
- Legislation product coverage in weight (%) on total and per category [102]: Total: 6 % of the e-waste generated in 2019

0% | 2% | 0% | 1% | 1% | 1%

International Conventions:

	Signature	Ratification	Entry into force
Basel Convention [31]	-	23/11/1993 (a)	21/02/1994
Rotterdam Convention [32]	11/09/1998	14/09/2005	13/12/2005
Stockholm Convention [33]	23/05/2001	14/09/2005	13/12/2005
Minamata Convention [34]	10/10/2013	21/01/2016	17/08/2017

VALIDATION PHASE

Your role is key!

- ✓ Support in data collection (e.g. questionnaire, interviews, etc.)
- ✓ Experiment with UNITAR-SCYCLE harmonized e-waste methodology after the training
- ✓ Review the information reported in the country profiles

Previous Regional E-waste Monitors

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

REGIONAL E-WASTE MONITOR
CIS + Georgia
— 2021

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

REGIONAL E-WASTE MONITOR
for the Arab States
— 2021
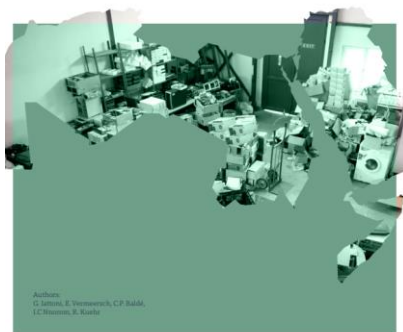
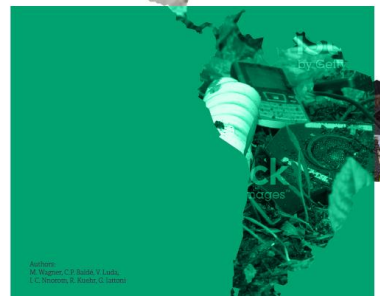https://ewastemonitor.info/regional-e-waste-monitor-for-the-arab-states-2021/

REGIONAL E-WASTE MONITOR
for Latin-America, results for the 13 countries participating in project UNIDO-GEF 5554
— 2021

The Global E-waste Monitor 2020
Quantities, flows, and the circular economy potential

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

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Regional E-waste Monitors approach
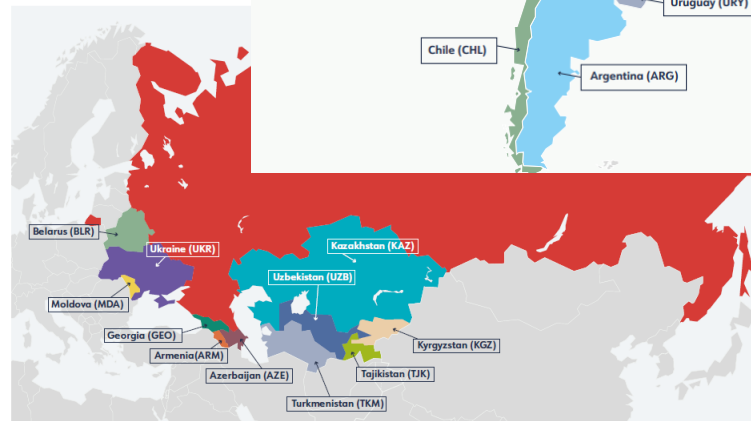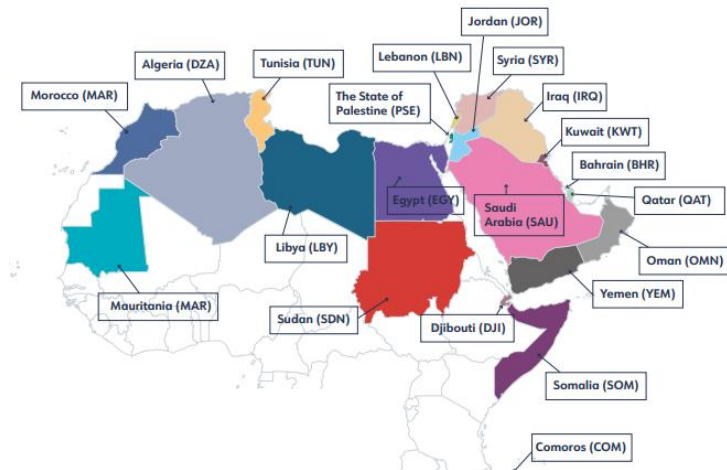
COMBINING A NATIONAL

AND REGIONAL APPROACH

Source of the maps: United Nations Geospatial Information Section Web Site (https://www.un.org/geospatial/)

Legislation

Management infrastructure

Statistics

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

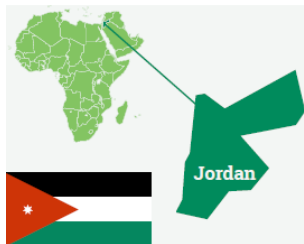**8. Recommendations**

9. Country Profiles

Purpose of the Monitor

- Allow relevant stakeholders and the general public to **be more informed** about e-waste challenges in the region;

- Provide an **updated overview of the key e-waste statistics** and indicators per country and at regional level;

- Evaluate the **transboundary movement** of e-waste by estimating quantities and providing and overview of import&export legislation and policies;

- Help to **map** the key **e-waste stakeholders**, the status of e-waste **legislation**, and **recycling opportunities** from e-waste in the region.

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Successful stories

Surveys system of the country was updated and the results validated through the data obtained by the project – *Environment Statistics Division*

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 – *Naional Bureau of Statistics*

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

ARGENTINA

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*

URUGUAY

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.

COSTA RICA

As a result of the project, e-waste recyclers and collection points in the country were mapped to develop a user platform.

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.

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Let's create together a better picture of the e-waste situation in the Western Balkans to tackle the issue!

Thank you for your attention!

Giulia Iattoni

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

Kees Baldé

Senior Scientific Specialist
UNITAR – SCYCLE Programme
Email: balde@unitar.org

Promotional and awareness campaign & launching event

Date: October 2022 – July 2023

Promotional campaign:
- Make the data available on the website of the Global E-waste Statistics Partnership;
- Elaboration of a Story Map which constitutes an online interactive tool;
- Promotion on relevant webpages and social media channel.

Regional launching event of the Report:
- Regional briefing
- **Objectives**:
  - Present to the regional community the outcomes of this study and to generate concrete impact at the country level by pinpointing key gaps, stimulating the discussion on country level needs;
  - Showcase the importance of addressing e-waste and the role of statistics in that sense;
  - Illustrate the way forward for acting at the country level.
- **Audience:** Open event targeting partners at the national and regional levels, relevant EU structures, the Donors community as well as all interested stakeholders.

Project partners:

www.itu.int

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 Report.

Objectives:

- Lay the basis for concrete follow-up at the country level;

- Create momentum in the ICT sector and space for pursuing impact-generation initiatives at the national level;

- Specific objectives include:

  1. Presentation of the key national and sub-regional trends as well as potential initiatives to be leveraged related to e-waste;
  2. Discussion on the outstanding challenges to identify priority areas to be addressed;
  3. 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; the national donors community; EU Delegation; UN Country Teams; Customs; others.
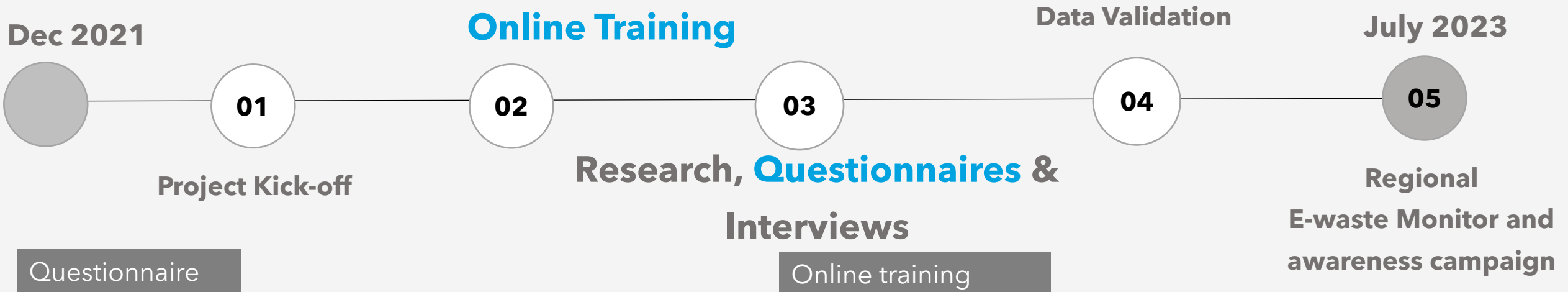
Project partners:

www.itu.int

Next steps

Questionnaire and online trainings

Next steps

Dec 2021

Online Training

Data Validation

July 2023

01 — **02** — **03** — **04** — **05**

Project Kick-off

Research, Questionnaires &

Interviews

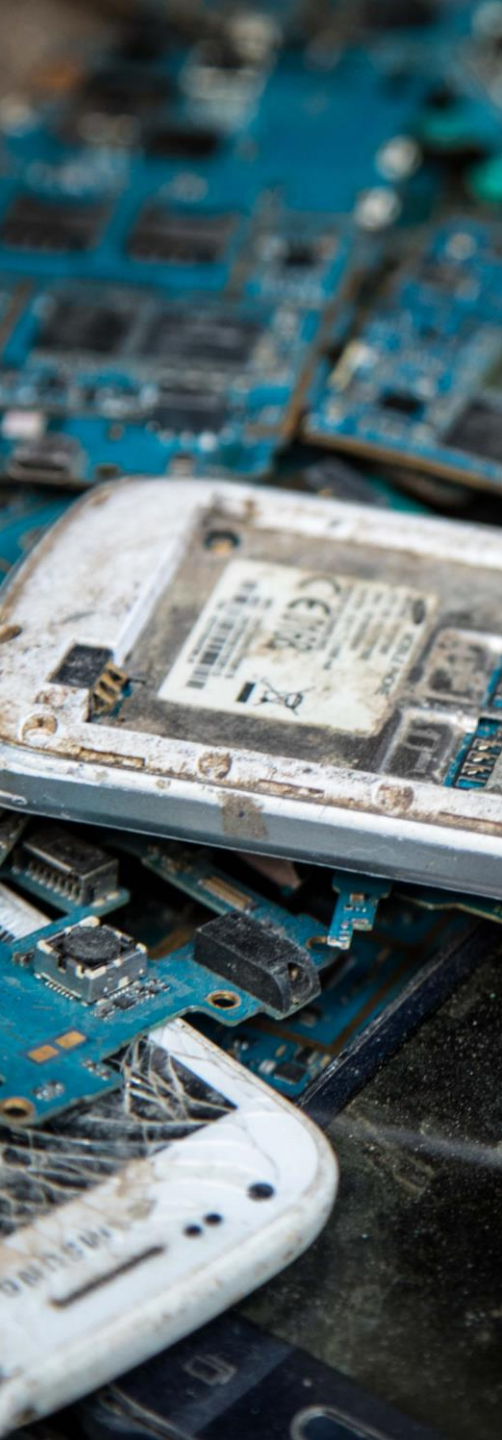**Regional E-waste Monitor and awareness campaign**

Questionnaire

- The questionnaire to collect information on the status of e-waste and collect e-waste related data;
- Identify relevant stakeholders to take part in the questionnaire;
- Take part in the questionnaire and/or liaise with necessary stakeholders to provide the information;
- Take part in one-to-one discussion and/or facilitate contact with relevant national focal points.

Online training

- Information on the training will be sent by UNITAR (save the date – Online training expected by the end of April);
- Take part in the online training;
- Engage additional relevant stakeholders in the training;
- Circulate key information among the team members;
- Support the elaboration of data set through data collection and estimation, including by contacting relevant national institutions.

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Thank you!

Contact:
Rosie McDonald
E-waste Data Associate Officer, ITU
rosie.mcdonald@itu.int

Sarah Delporte
Project Officer, ITU Office for Europe
sarah.delporte@itu.int