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Programme

Electronic waste statistics

Kees Baldé

15 November, 2018 – Session 5.1: Methodology on waste statistics, Beirut



Outline

- About UNU
- E-waste global problems / opportunities
- What is e-waste
- E-waste statistics
 - Relation with SDGs
 - Trends in consumption
 - E-waste quantities
- Arab States



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UNU-Vie-SCYCLE – Key Projects & Activities



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1. Policy advice

- European Commission (2007, 2014 & 2015)

2. E-waste Statistics

- Global E-waste Statistics Partnership
- Global E-waste Monitor (2017, 2014)
- Regional E-waste Studies: East and Southeast Asia (2017), Latin America (2018, 2015)

3. Capacity building and training

- E-waste Academies for Managers (EWAM) & Scientists (EWAS) (Global, since 2009)

4. Facilitating International Dialogue

- Hosting StEP Secretariat: Solving the e-waste problem (Global, since 2004)
- UN E-waste: towards a joint e-waste effort of UN organizations (Global, since 2016)



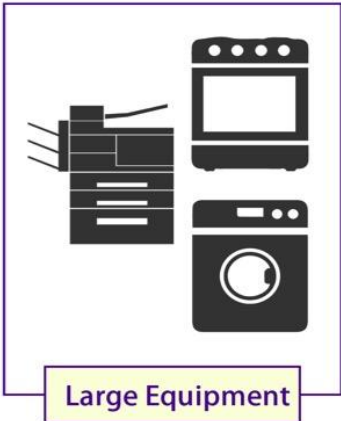
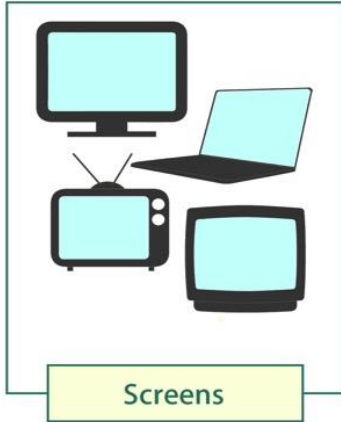
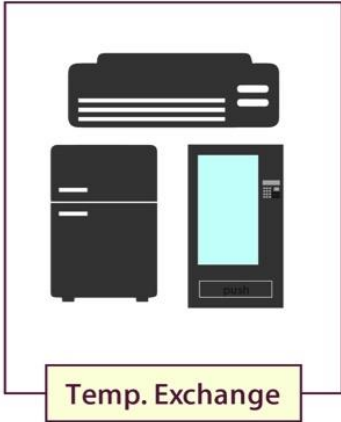
What is e-waste



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“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”

The amount of e-waste is growing

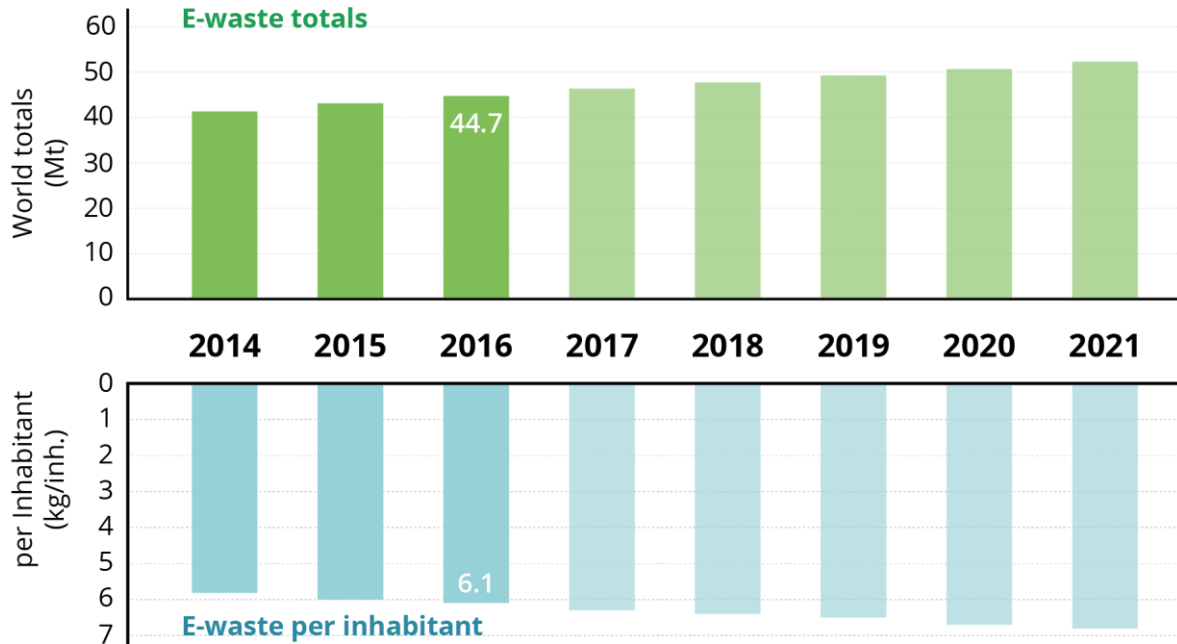


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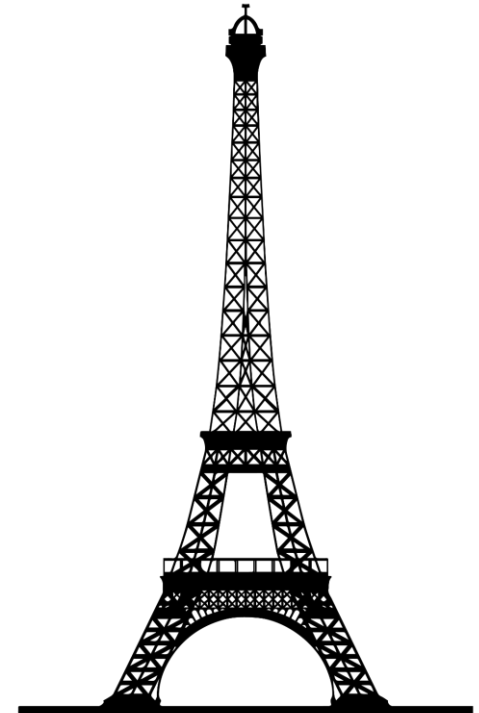
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- Amount of e-waste grew by 8% between 2014 and 2016
- 44.7 million metric tonnes of e-waste (2016)



Note: 2017-2021 are estimates



E-waste quantities:

Overview of global e-waste quantities

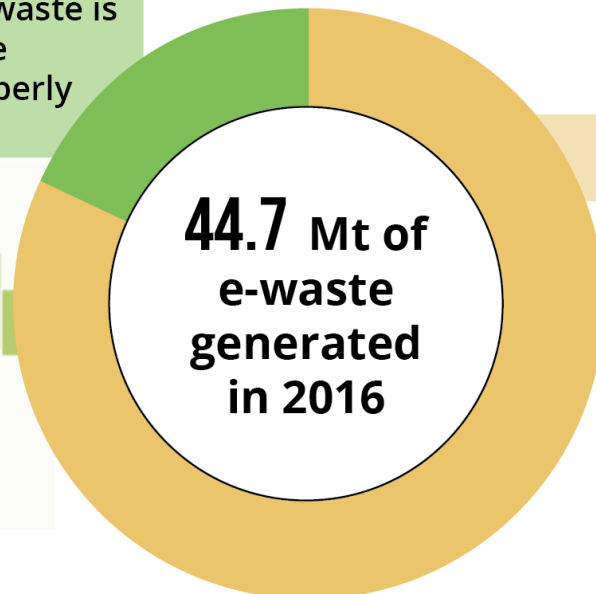


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20% (8.9 Mt) of e-waste is documented to be collected and properly recycled



? Outside official take-back systems

80% (35.8 Mt) of e-waste is not documented

- 4% (1.7 Mt) of e-waste in the higher income countries is thrown into the residual waste
- The fate of 76% (34.1 Mt) of e-waste is unknown; this is likely dumped, traded, or recycled under inferior conditions



E-waste quantities:

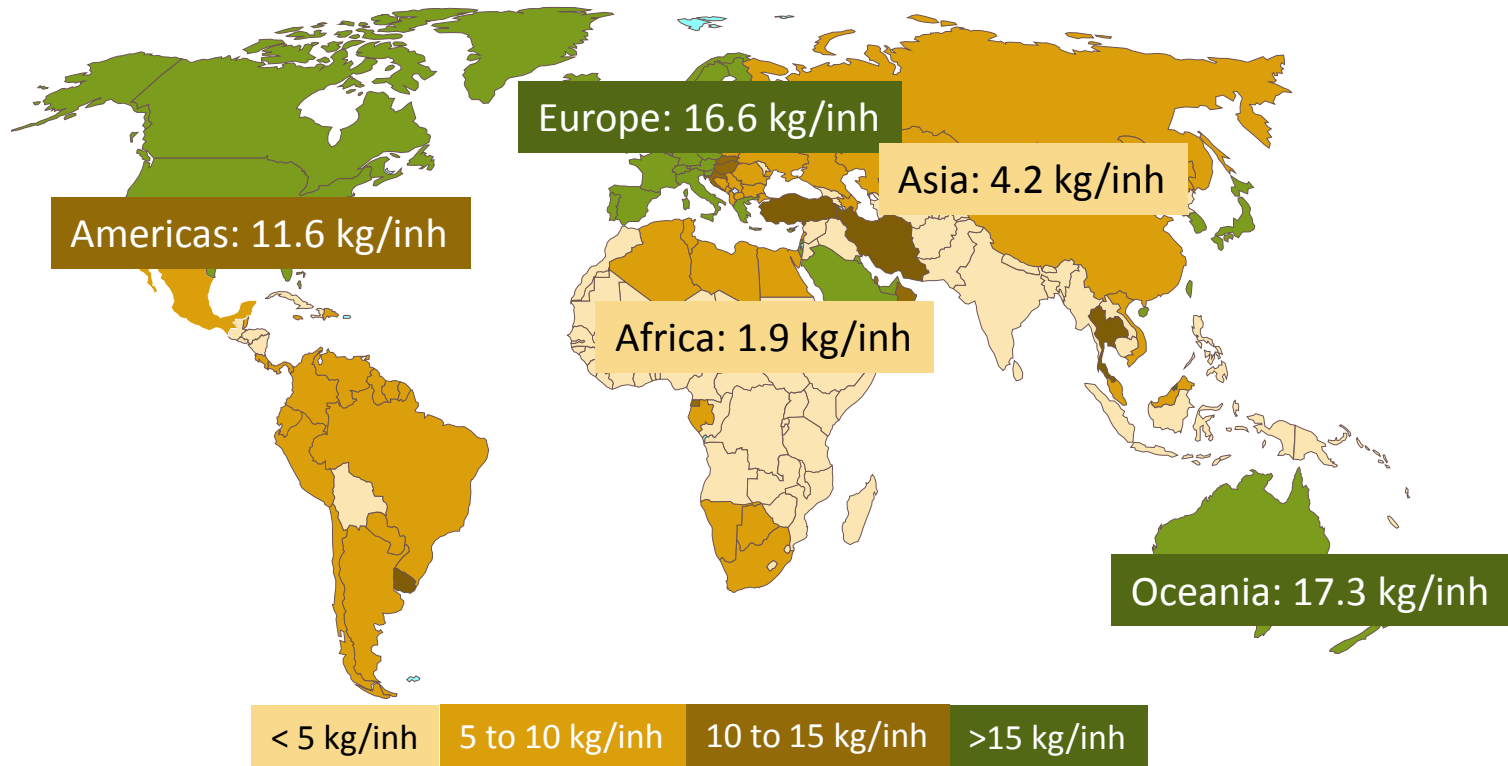
Overview of global e-waste quantities



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E-waste quantities:

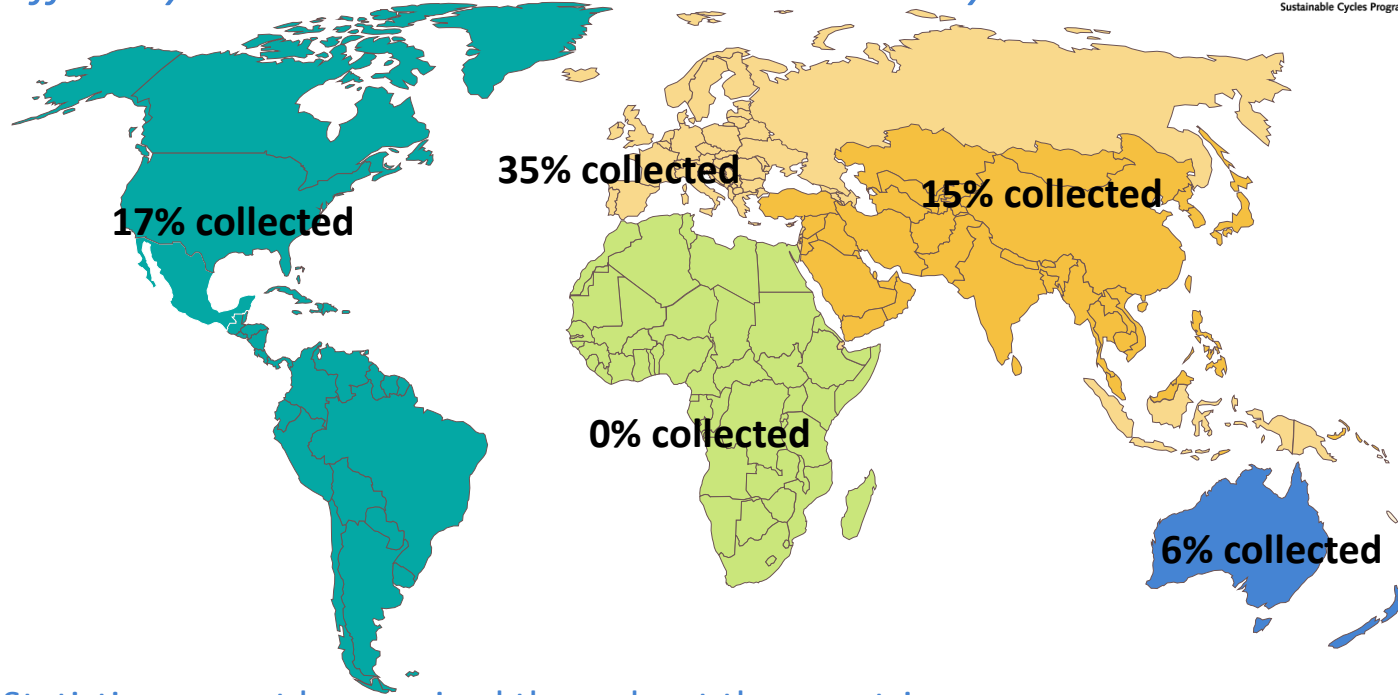
E-waste officially documented to be collected and recycled



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Statistics are not harmonized throughout the countries



Only **41** countries in the world collect internationally harmonized statistics on e-waste



E-waste quantities from the GEM:

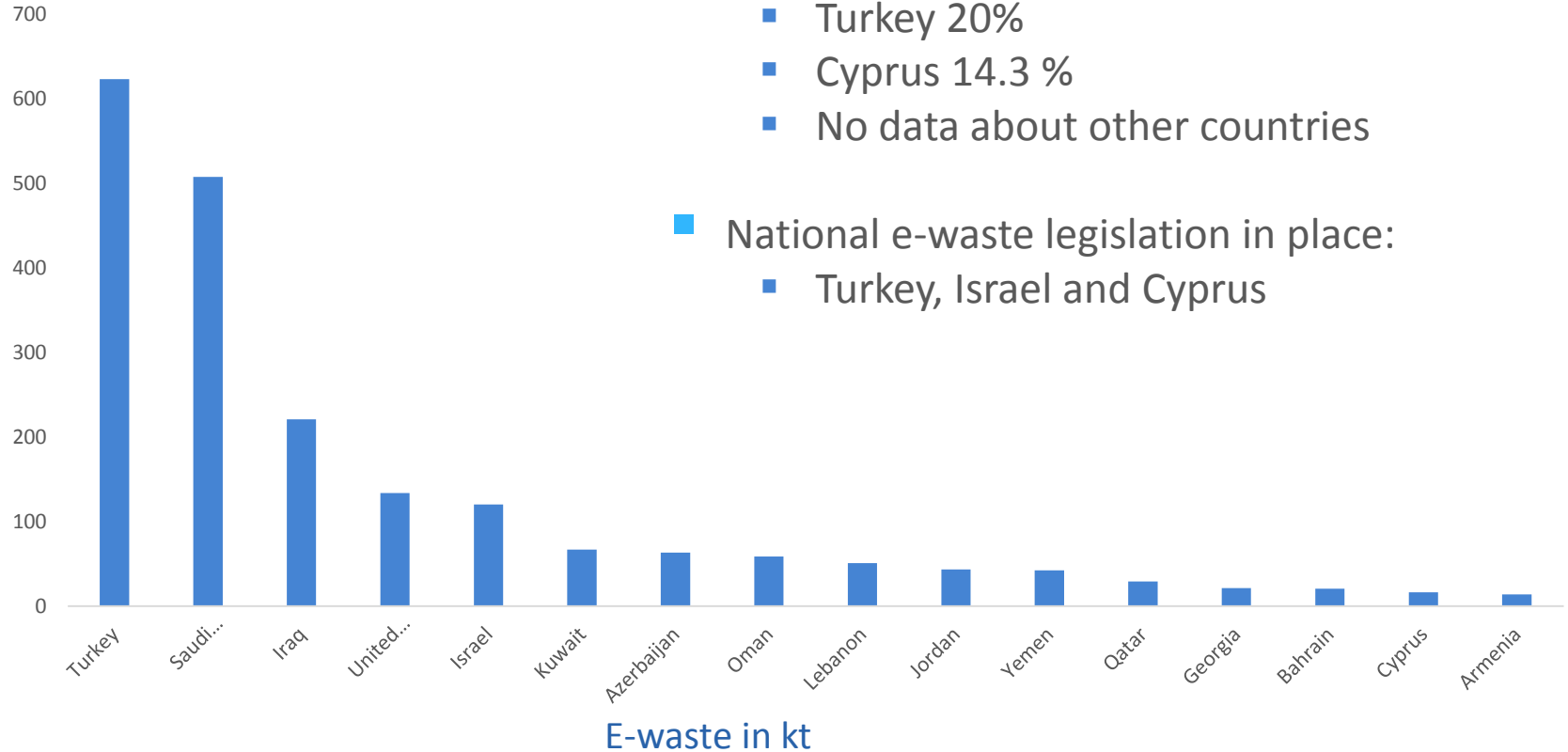
E-waste generation in Western Asia



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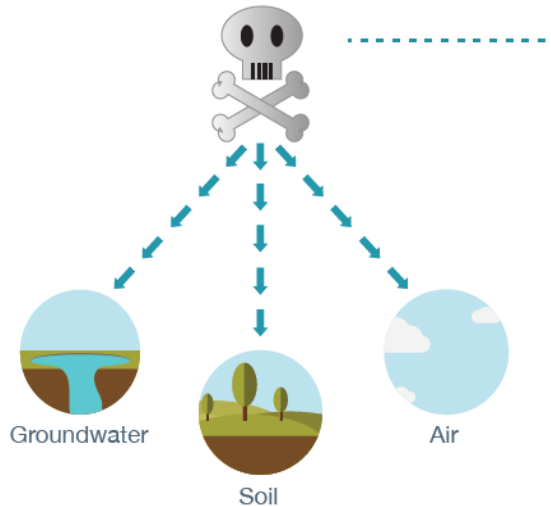


- Collection rate:
 - Turkey 20%
 - Cyprus 14.3 %
 - No data about other countries
- National e-waste legislation in place:
 - Turkey, Israel and Cyprus

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)



E-waste can pose considerable environmental and health risks.



E-waste global problems:



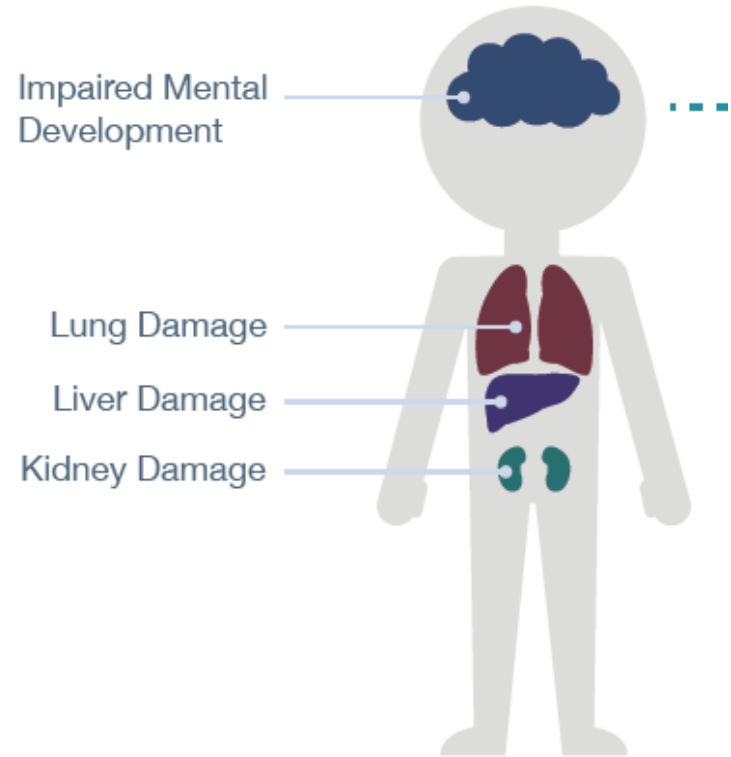
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2. Impact on health

- 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



Cave used by locals to burn e-waste in Palestine



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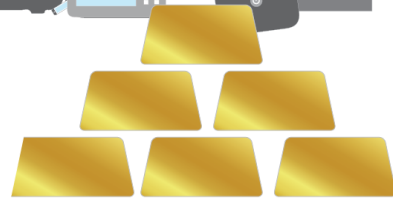
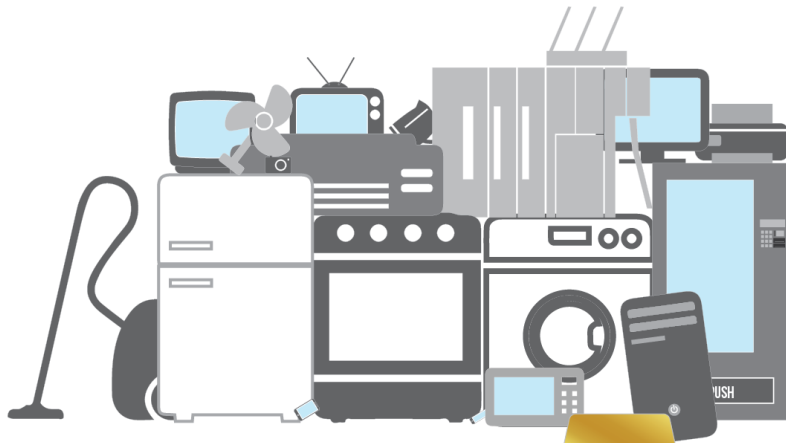
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E-waste global problems:

3. Losses of valuable material

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



Estimated value of raw materials at

55 BILLION EUROS

Global E-waste Statistics Partnership

- Improve and collect worldwide e-waste statistics
- Develop guidelines for classification, reporting and indicators
- Raise visibility on the importance of tracking e-waste
- Deliver capacity building workshops
- Publish e-waste data through an online portal: globalewaste.org

Statistical Capacity Building



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■ 2017

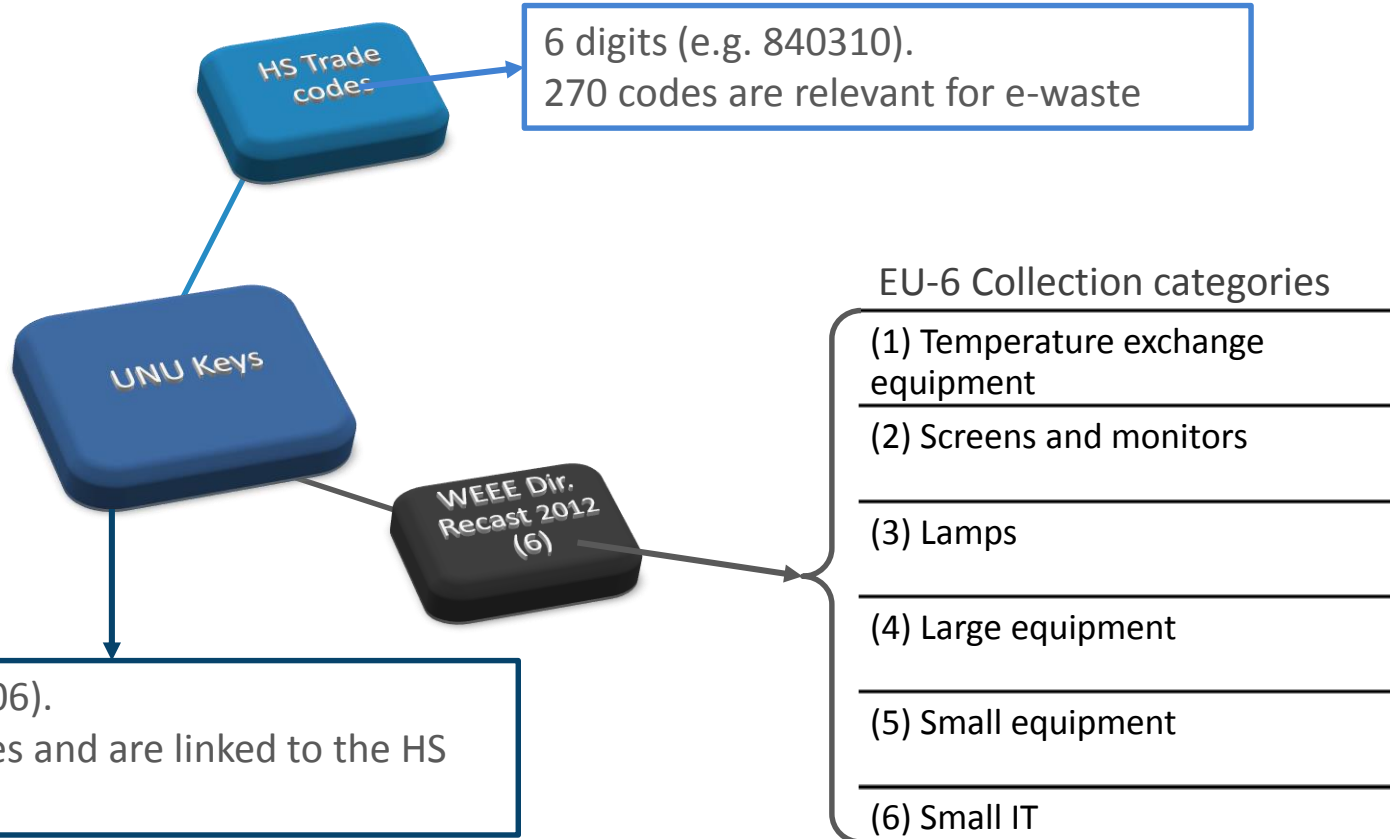
- UNU/UNSD E-waste Workshop in the East African Community Regions

■ 2018

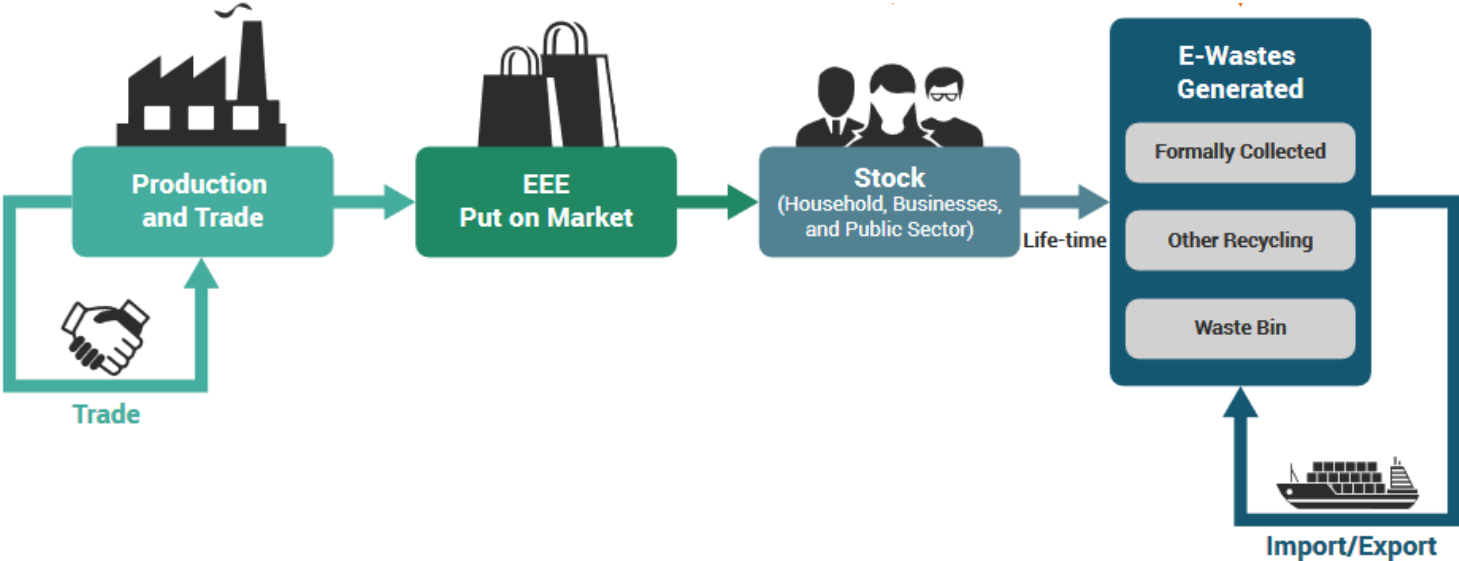
- UNU/ITU Workshop at the Green Standards Week
- UNU/NIC workshop in Sao Paulo
- UNU country visit in Jordan
- UNU country visit in Tanzania

E-waste classification:

UNU-KEYS Product classification



Framework on e-waste statistics:



Harmonized framework to measure e-waste: The Partnership Measuring ICT for Development



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■ Objectives:

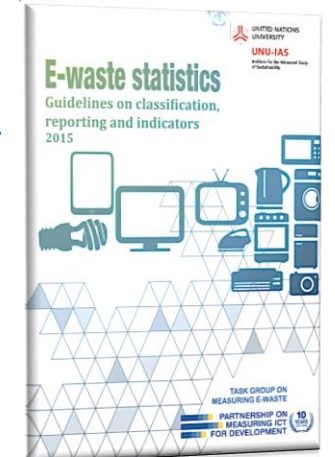
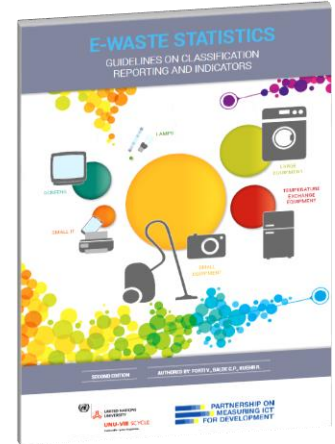
■ Framework based on internationally defined indicators:

1. Total EEE Put on the Market (unit kg/inh)
2. E-waste generated (unit kg/inh)
3. E-waste formally collected (unit kg/inh)
4. E-waste collection rate (%)

■ Statistical guidelines (in 2015 and 2018)

http://collections.unu.edu/eserv/UNU:6477/RZ_EWaste_Guidelines_LoRes.pdf

- ### ■ Join forces with UNECE, OECD and UNSD to improve data coverage. This led to the use of pilot questionnaires on e-waste following the principles of the framework.



In preparation with UN Env: SDG 12.4.2

- Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
- In preparation: indicator on e-waste
- **E-waste definition** is similar to our guidelines
- **E-waste generated** means the total weight of e-waste resulting from EEE that had been placed on the market, prior to any activity such as collection, preparation for reuse, treatment, recovery, including recycling, or export.
- The “**environmentally sound management of e-waste**” are performed under the requirements of national e-waste legislation. The national e-waste legislation ensures that hazardous constituents are managed in a manner which will protect human health and the environment against the adverse effects which may result from e-waste, and that the valuable fractions are recycled.

Project in Arab States



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- ITU Regional Office Arab Countries and UNU project

Expected Activities (2019-2020)



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- Collect statistics
 - Use data from UNSD environment questionnaire
 - Maybe additional survey
 - Including import and exports of e-waste
- Enhance capacity of the Arab Countries in producing national e-waste statistics
 - 4 to 5 day workshop
- Stakeholder policy and statistics analysis in at least 12 of 22 countries
 - 2 or 3 countries as case studies
- Development of Model Policy on E-waste Management and Governing
- Publication
 - Regional E-waste Monitor: Arab States – Towards Environmentally Sound Management of E-waste

Questions

- Your involvement to the project and global e-waste statistics partnership?

