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UNU-VIE SCYCLE

Sustainable Cycles Programme

SCYCLE

Programme

E-waste statistics

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United Nations University – ViE- SCYCLE Programmes



INSTITUTES

- 1 UNU-Barcelona, Barcelona, Spain
- 2 UNU-CRIS, Bruges, Belgium
- 3 UNU-EHS, Bonn, Germany
- 4 UNU-FLORES, Dresden, Germany
- 5 UNU-IAS, Yokohama, Japan
- 6 UNU-IIGH, Kuala Lumpur, Malaysia
- 7 UNU-IIST, Macao, China
- 8 UNU-INRA, Accra, Ghana
- 9 UNU-INWEH, Hamilton, Ontario, Canada
- 10 UNU-ISP, Tokyo, Japan
- 11 UNU-MERIT, Maastricht, Netherlands
- 12 UNU-WIDER, Helsinki, Finland

PROGRAMMES

- 13 UNU-BIOLAC, Caracas, Venezuela
- 14 UNU-FTP, Reykjavik, Iceland
- 15 UNU-GTP, Reykjavik, Iceland
- 16 UNU-LRT, Reykjavik, Iceland

ADMINISTRATIVE and ACADEMIC SERVICES UNITS

- 17 UN University Centre – Tokyo, Japan
- 18 UN University Centre – Kuala Lumpur, Malaysia
- 19 UNU Vice-Rectorate in Europe, Bonn, Germany
- 20 UNU Office in New York, New York, NY, USA
- 21 UNU Office at UNESCO, Paris, France

Key projects/ activities:

1. Policy advice

- 2007 Review of the EU WEEE Directive
- 2017 Common methodology WEEE Directive
- 2016 E-waste in Latin America

2. E-waste quantification studies

- Global E-waste Monitor (2014)
- ProSUM (Prospecting the Urban Mine, 2015-2017)

3. Capacity building and training

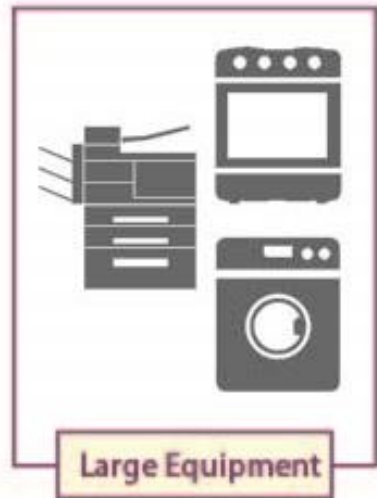
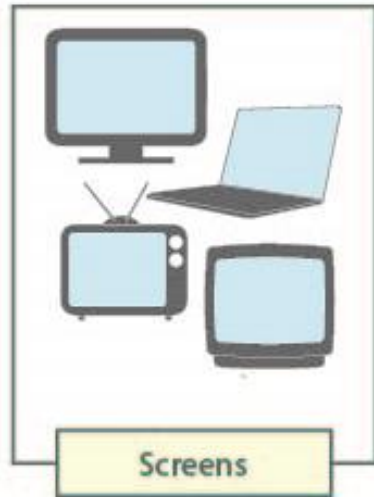
- E-waste Academies (Global, 2009-now)

4. Facilitating International Dialogue

- Hosting StEP Secretariat: Solving the e-waste problem, see: www.step-initiative.org



What is e-waste?



Good recycling of e-waste



- Toxic removal
- Manual dismantling
- Mechanical separation
Shredding, breaking, milling, and sequential sorting
- Combination of dismantling and mechanical separation
- Base metal refinery
- Precious metal refinery
- Plastics recycling
- Battery recycling
- Other component treatment
- Disposal









Methodology

- UN Partnership on Measuring ICT for Development
- Task Group on Measuring E-waste
- Guide countries to measure relevant parameters for e-waste

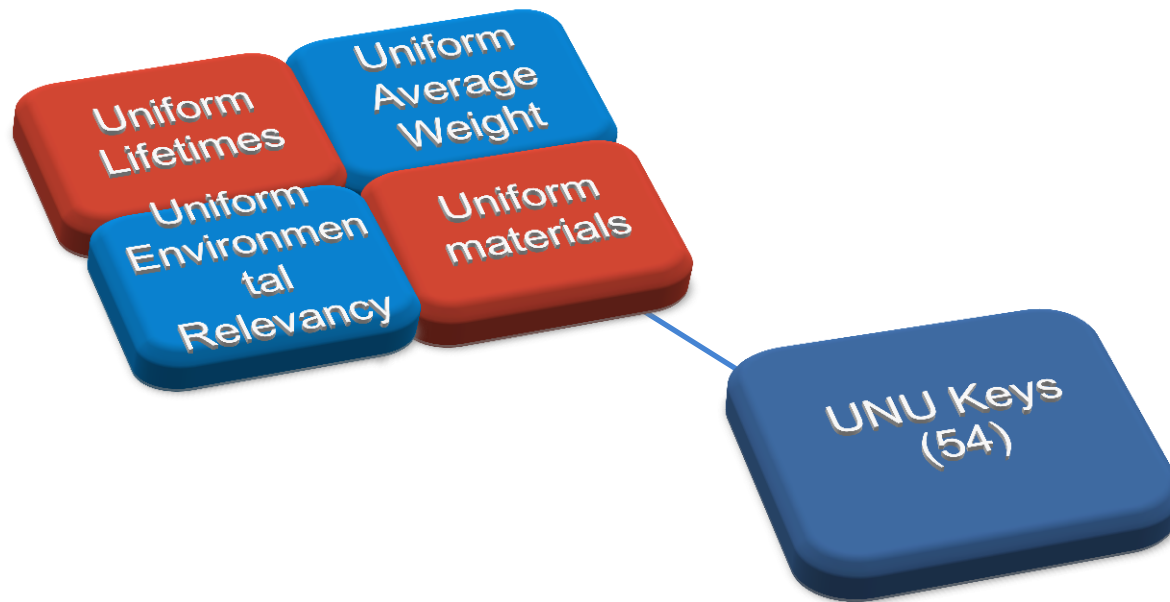
<http://ias.unu.edu/en/research/e-waste-quantification.html#outputs>

- Concepts are now “common methodology” in EU WEEE Directive
- <https://www.cbs.nl/en-gb/our-services/innovation/nieuwsberichten/output/cbs-invents-method-to-map-european-e-waste>
- EU Tools for policy makers

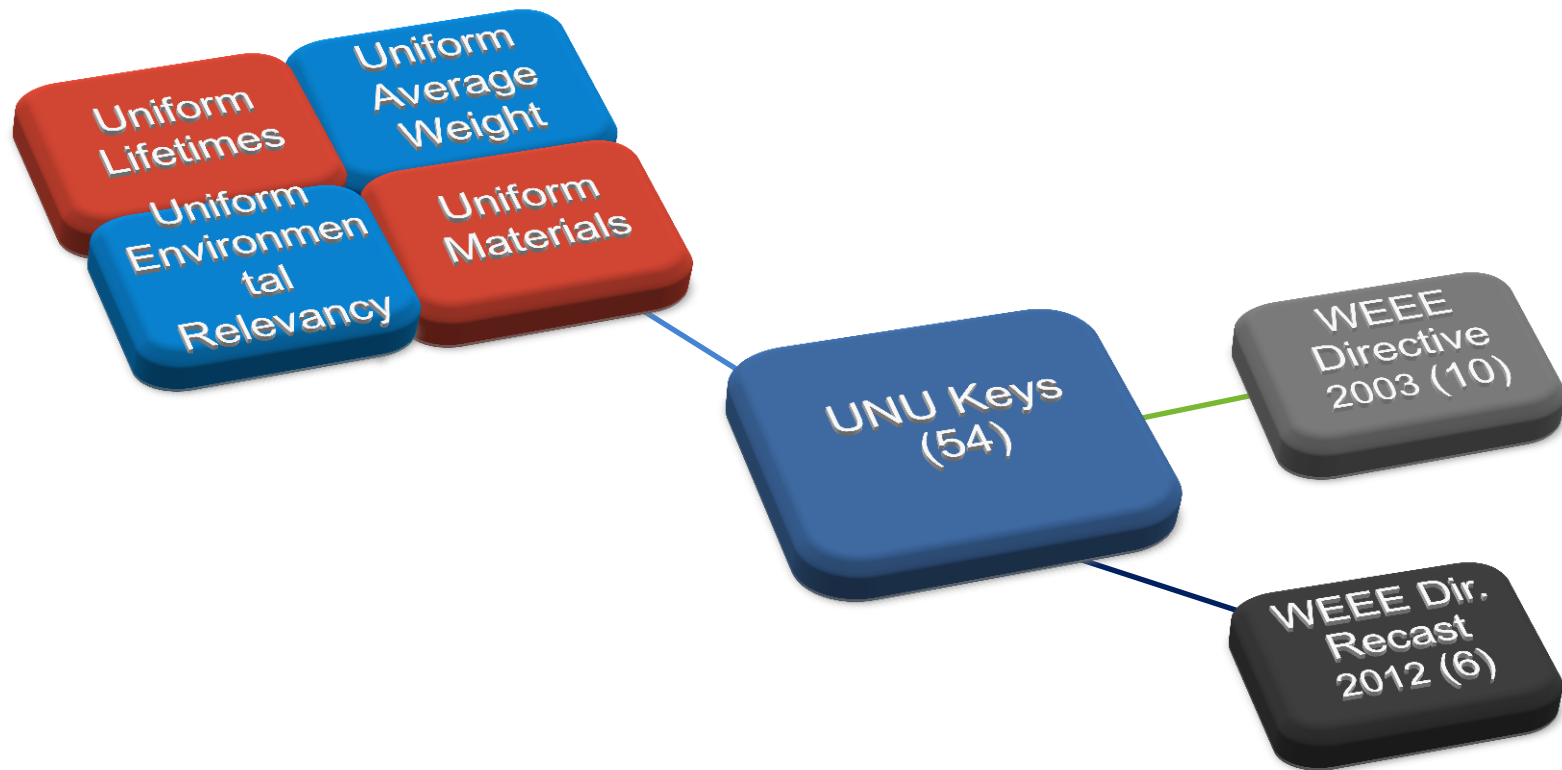


E-waste classification

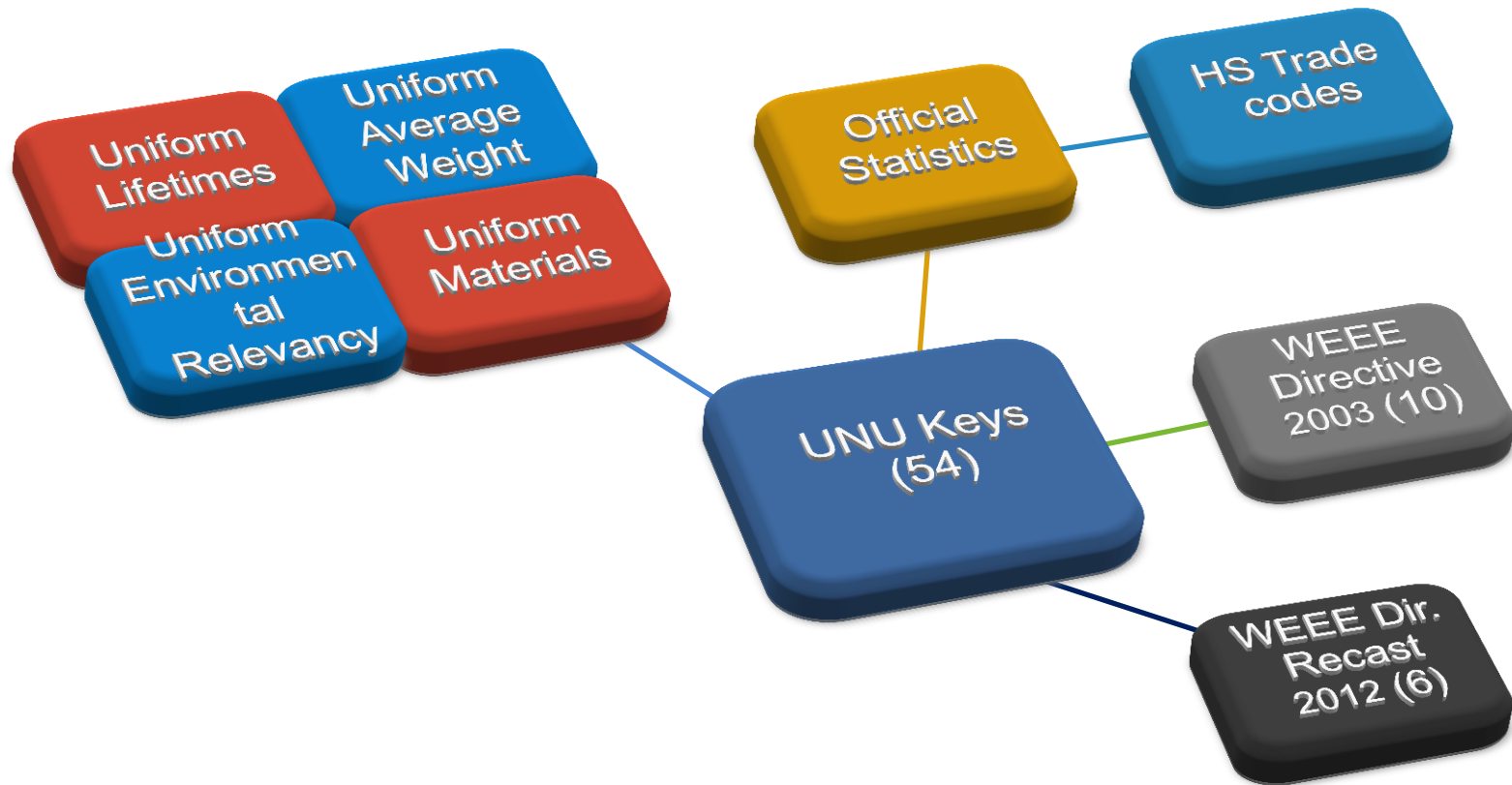
- UNU-KEYS Product classification



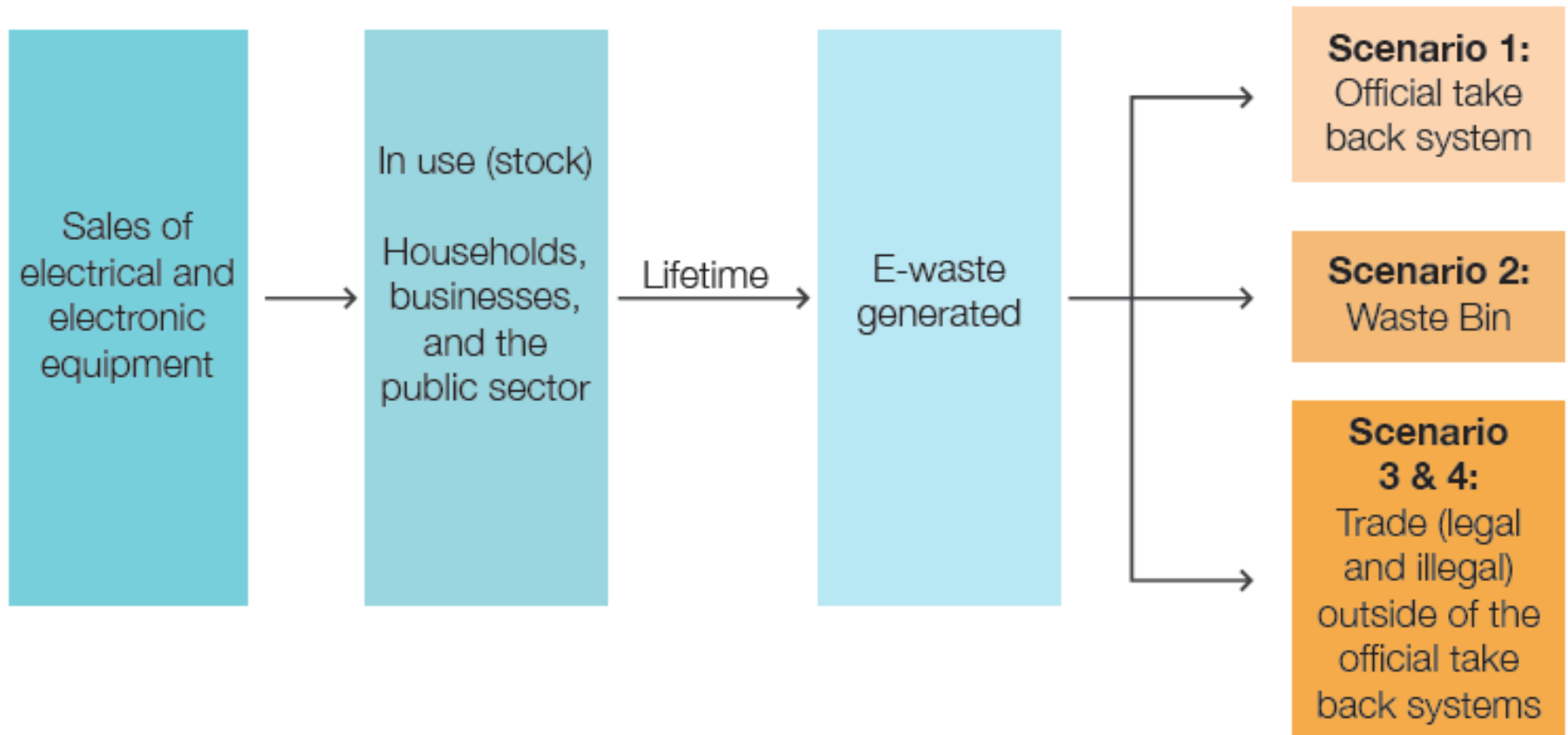
E-waste classification



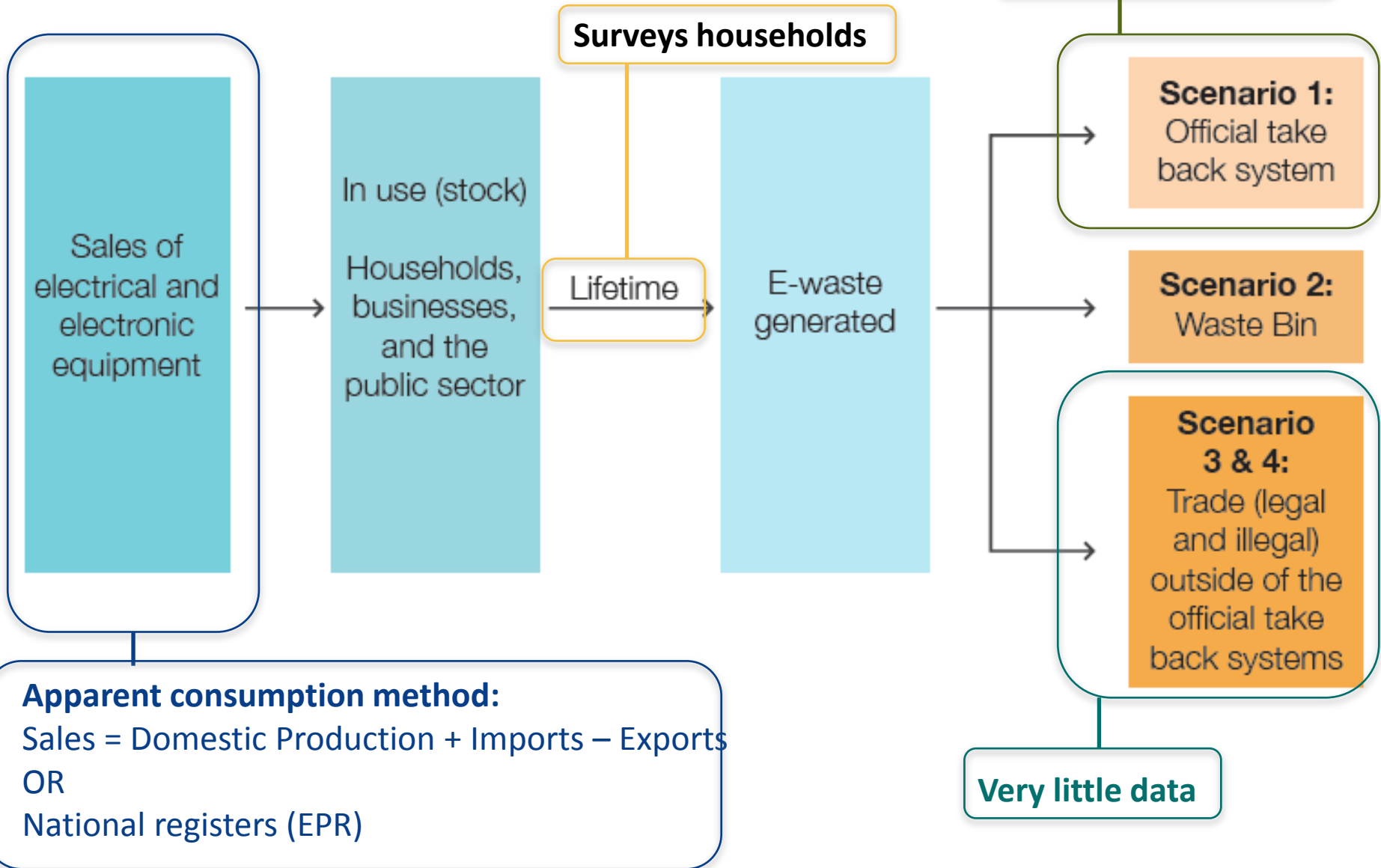
E-waste classification



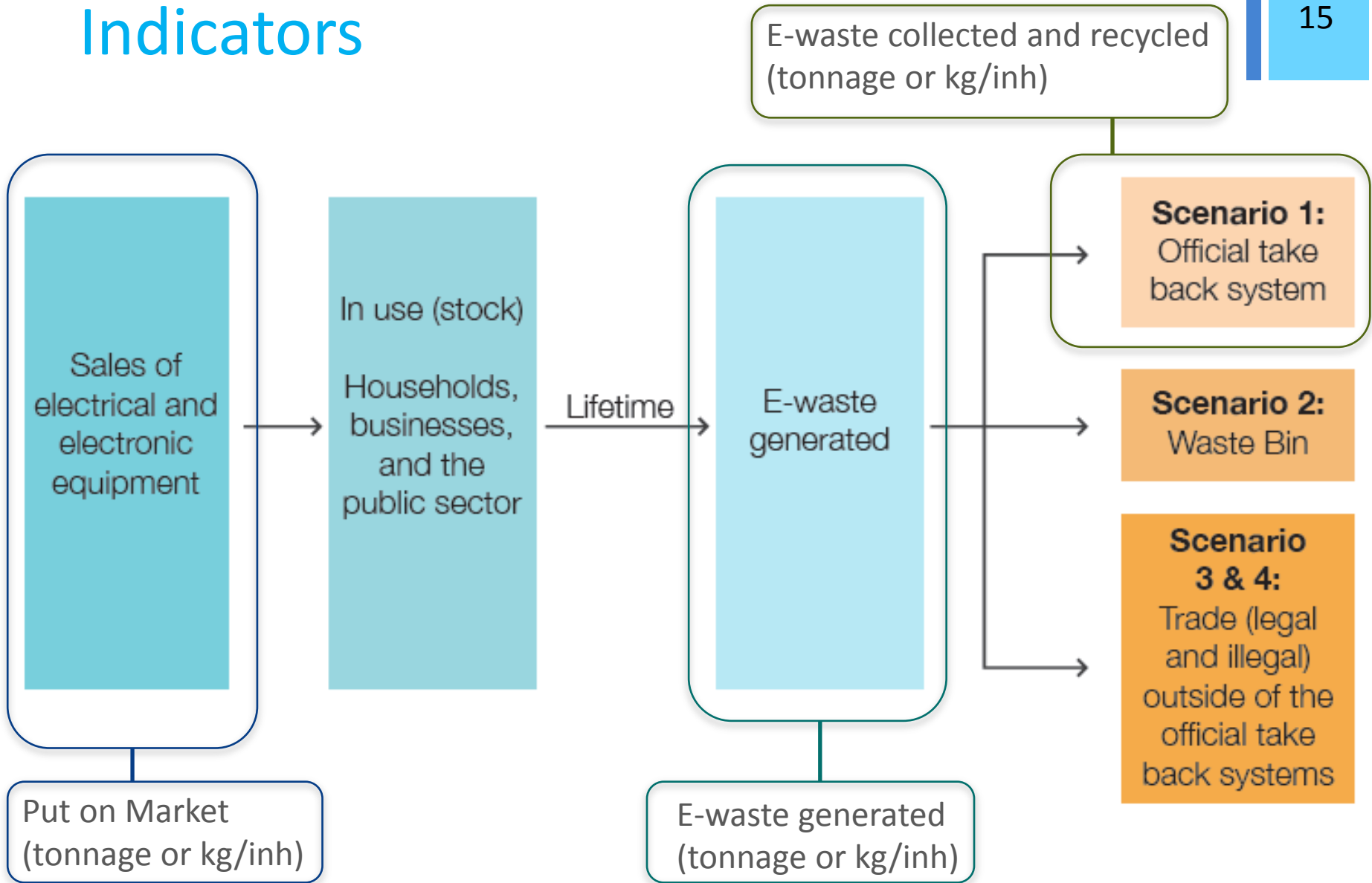
Measure flows



Measure flows – data sources



Indicators

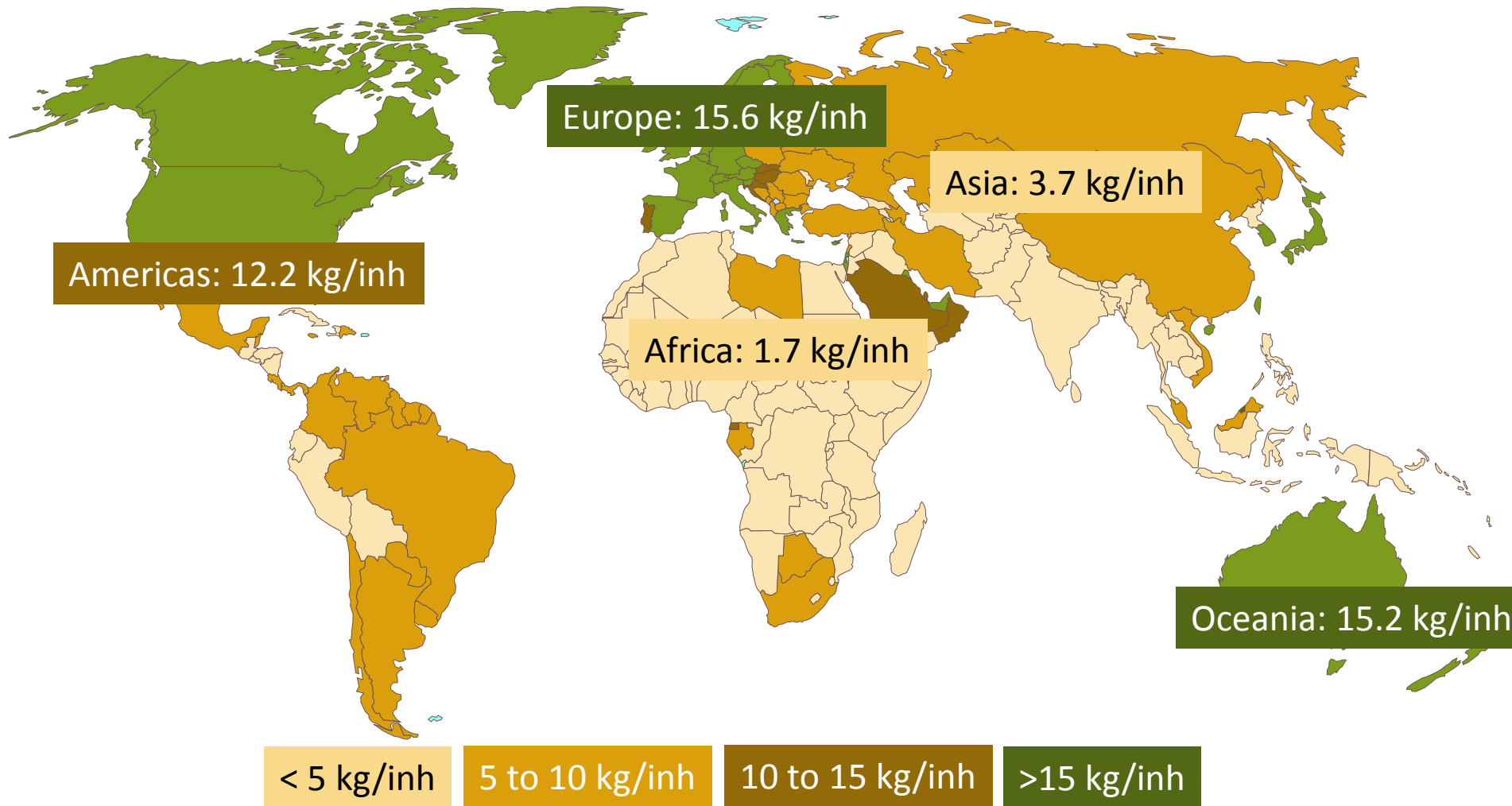


Performance:

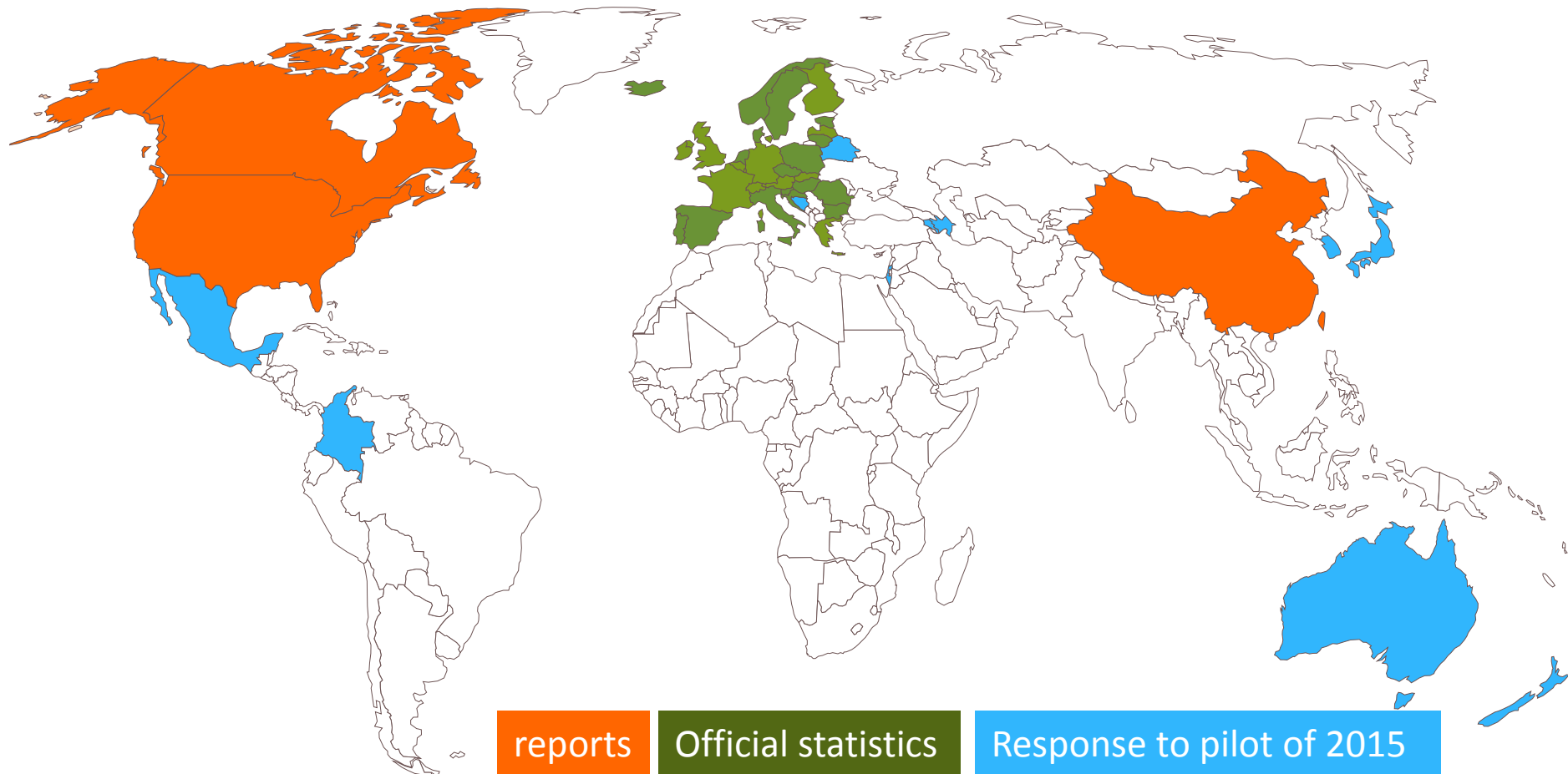
$$\text{E-waste collection rate} = \text{E-waste collection} / \text{e-waste generated}$$

Estimates: E-waste generation in 2014

16

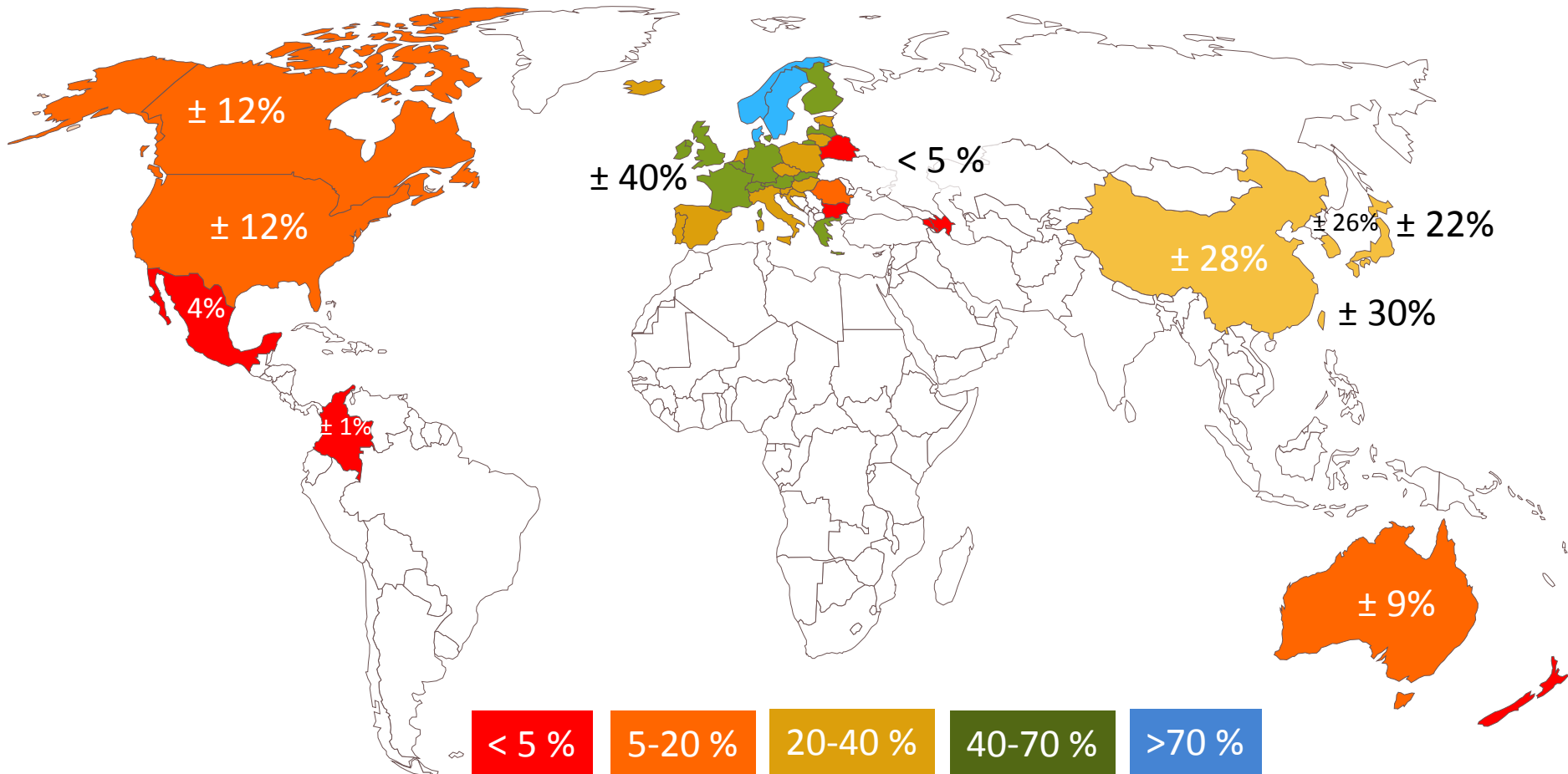


Coverage on e-waste statistics



Source: UNU E-waste monitor, Eurostat, Literature + pilot data collections with UNECE and OECD. EU is harmonized, but other countries are not yet (scope differs)

Reported Collection Rates of e-waste



EU data is harmonized, but other countries are not yet
Scope is being mapped in the UNU-KEYS

The ProSUM Project

“I am useful”

Prospecting Secondary raw materials in the Urban mine and Mining wastes



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Prospecting Secondary raw materials
in the Urban mine and Mining wastes



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 641999.

2014 EU estimate for e-waste generated: Copper and precious metals per e-waste category*

Copper in E-waste potential is \approx 20-25% of global recycled copper and \approx 10% of primary mining production

Cooling and Freezing equipment: Cable and compressors,

Screens: Deflection coil and cable

Large Equipment: Motors and cable

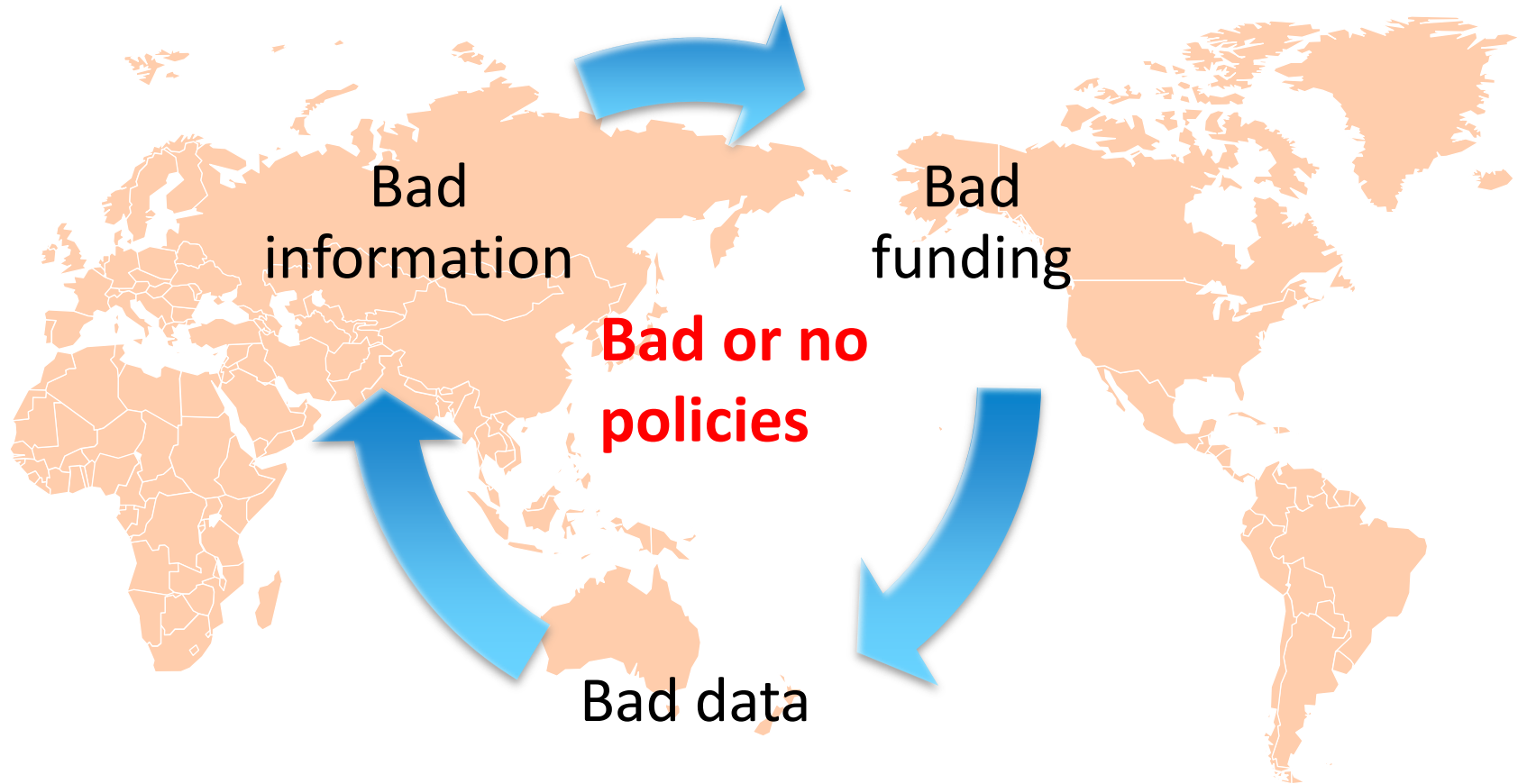
Small Equipment: Small motors and cable (more than half of Cu content)

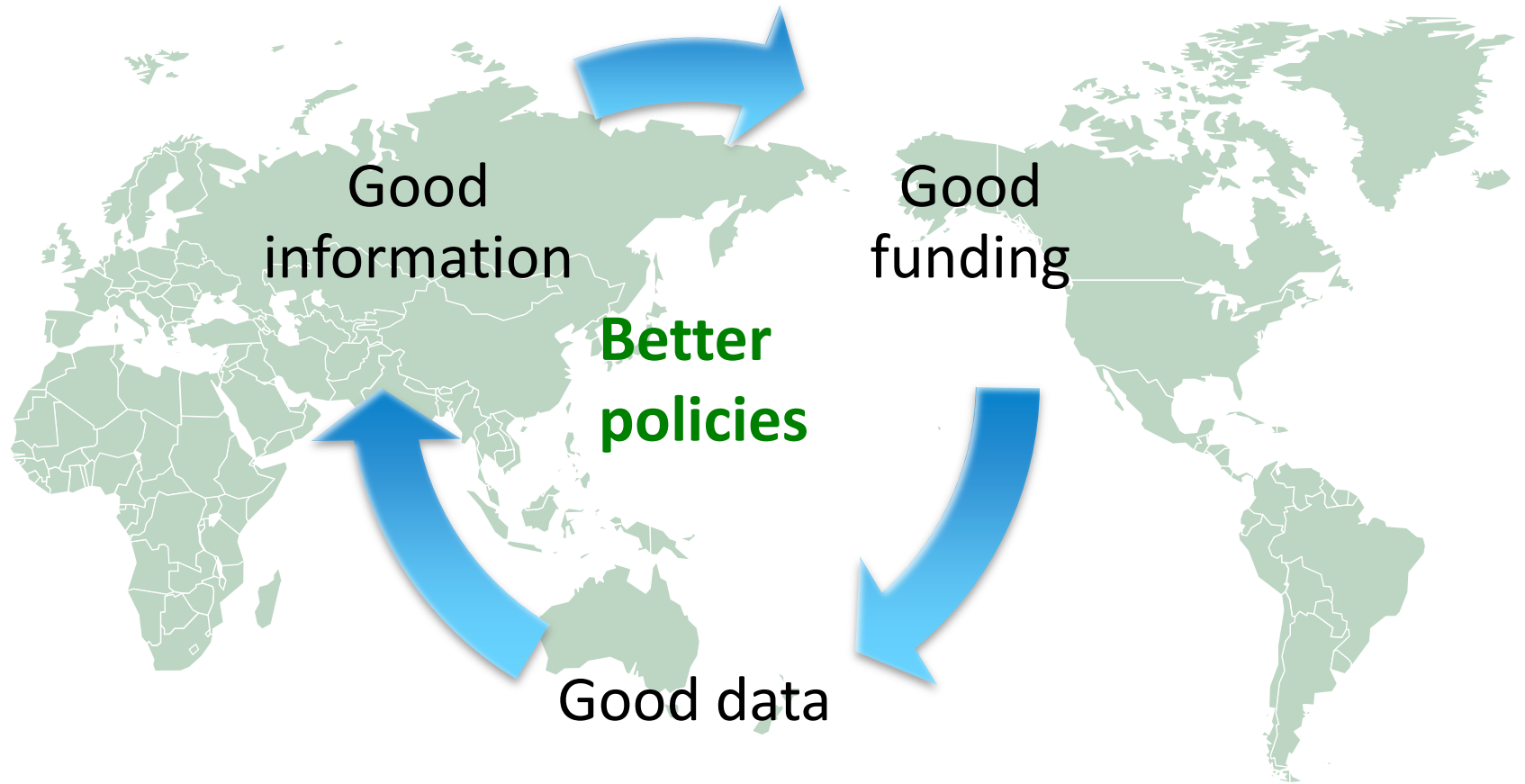
Small IT: Cable and circuit boards

Collection flows are difficult to map

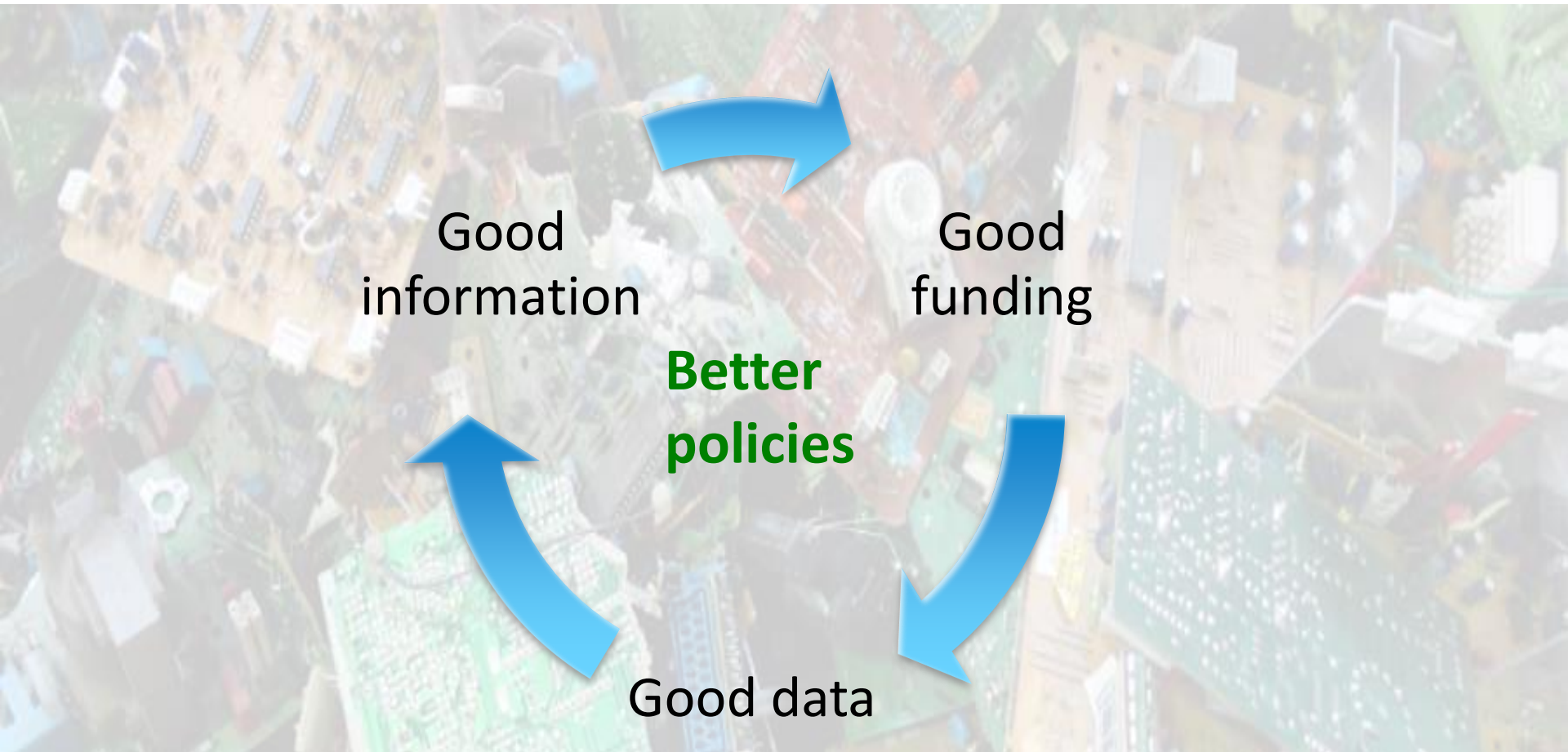
F.i. circuit boards trade \rightarrow 50-55% of EU most valuable material goes to smelters.







Build the base for solving the global e-waste issue: Improving world wide e-waste statistics



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ISWA

International Solid Waste Association

- 2017:
 - Pilot data collection with MS – UNU supported UNSD
 - Publication of the second E-Waste Monitor (ITU, UNU and ISWA)

- 2018:
 - Two regional workshops in Africa
 - Two regional workshops in Asia
 - Two regional workshops in Latin America

- 2019:
 - New data collection with MS (aim for world-wide coverage)

- End of 2019 or somewhere in 2020:
 - Publication of third e-waste monitor

How you can be involved !



- Join the project
- Regional workshops?
- Data collections?
- We need to go from global estimates + literature research to statistics from countries

THANK YOU FOR YOUR ATTENTION



The facts are coming! The facts are coming!

Kees BALDÉ

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Urban Mining:

<http://www.prosumproject.eu>

Global e-waste data:

<http://step-initiative.org/index.php/WorldMap.html>

<http://ias.unu.edu/en/research/e-waste-quantification.html#outputs>

Policy advice:

Countering WEEE Illegal Trade:

www.cwit-project.eu

DG ENV:

<https://github.com/Statistics-Netherlands/ewaste>

http://ec.europa.eu/environment/waste/weee/pdf/Final_Report_Art7_publication.pdf