

Digital Product Information Systems and
Digital Product Passport: Opportunities
and Challenges

24 September 2026, Online,
Coordinated by PIPA and CETESB Higher
School



BASEL | ROTTERDAM | STOCKHOLM
CONVENTIONS

DPIS as a tool for chemicals and waste management

Ms. Francesca Cenni, Programme Management Officer,
Basel, Rotterdam and Stockholm Conventions



Minimize the generation of hazardous wastes in terms of quantity and degree of hazard;

Control transboundary movements of hazardous wastes and other wastes (conditions and the Prior Informed Consent procedure);

Promote the environmentally sound management of hazardous wastes and other wastes.

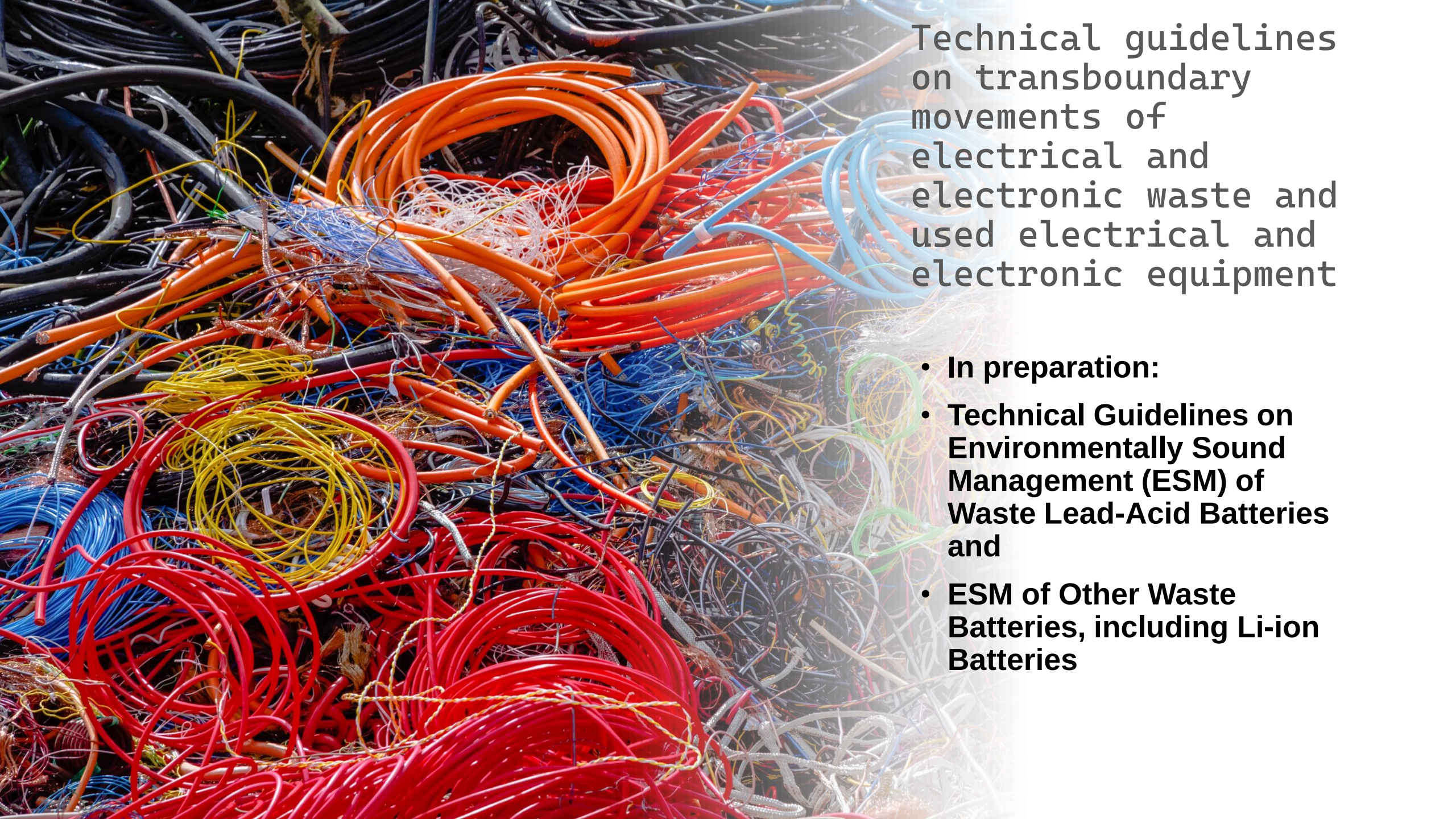
The Basel Convention

- Adopted: 22 March 1989
- Entry into force: 5 May 1992
- 191 Parties
- **Objective:** To protect human health and the environment against the adverse effects of hazardous wastes
- **Scope:** Hazardous wastes and other wastes



The Basel Convention and WEEE

- The Basel Convention is the only **global** instrument dealing with hazardous wastes;
- Trade of e-waste can happen, but it needs to follow the prior informed consent (**PIC procedure**), and it should respect the principles of environmentally sound management (**ESM**) of wastes;
- Secretariat activities through the technical assistance programme and the E-waste Partnership (PACE II), and collaboration with other international organizations (ITU, UNECE, UNU, Eurostat, OECD, UN Statistics Division, etc).

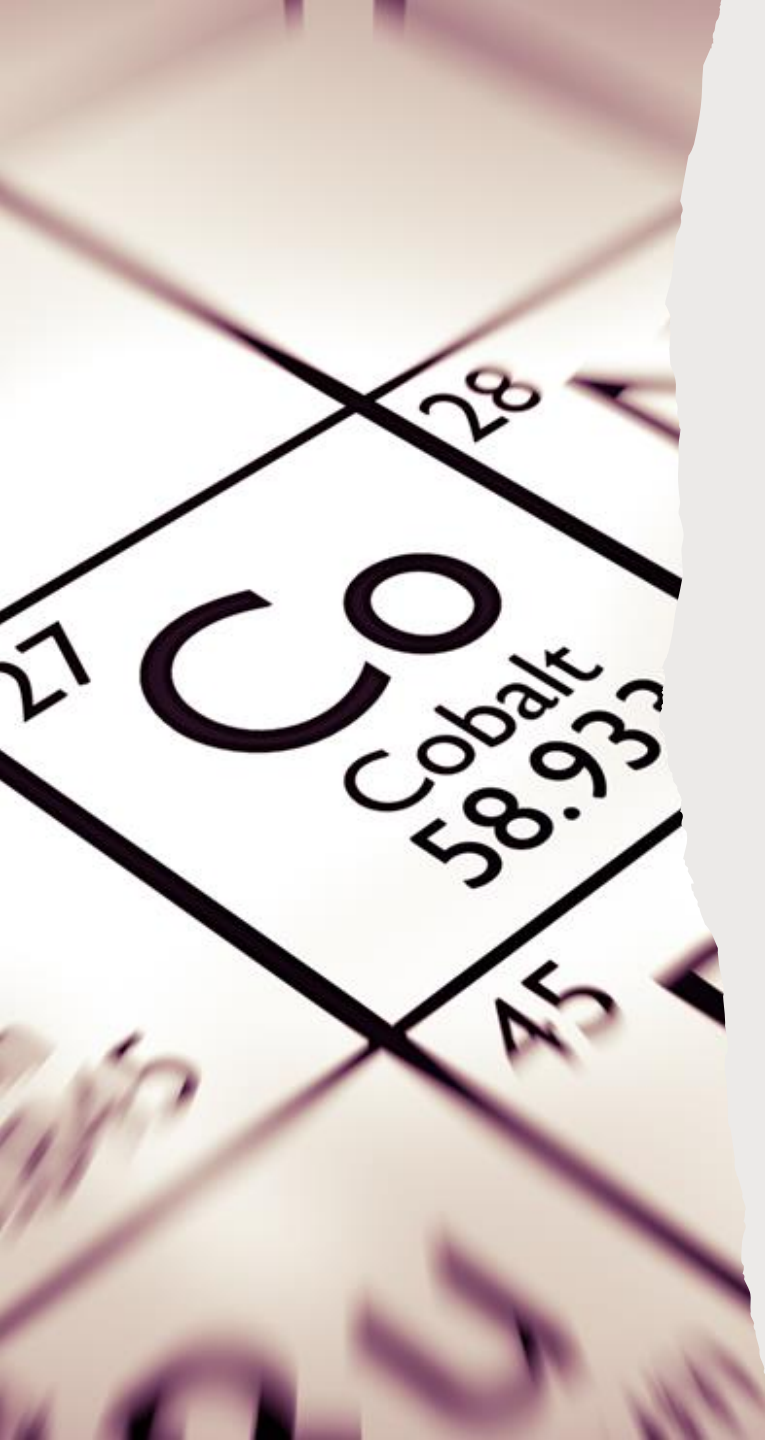


Technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment

- In preparation:
- **Technical Guidelines on Environmentally Sound Management (ESM) of Waste Lead-Acid Batteries and**
- **ESM of Other Waste Batteries, including Li-ion Batteries**

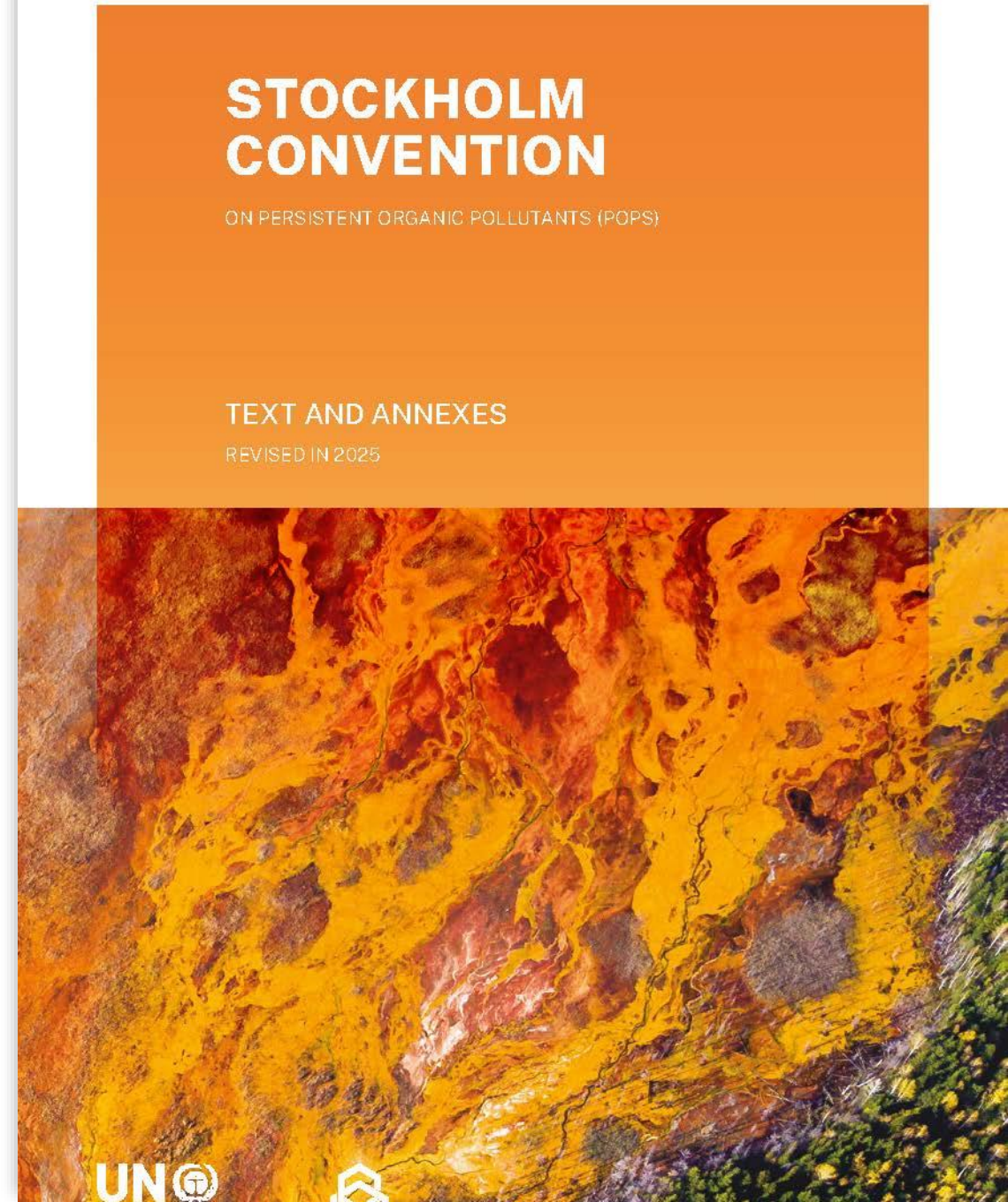
TGs ESM of Waste Batteries

- Waste prevention and minimization
- Recycling valuable metal elements e.g.
 - lithium (Li),
 - nickel (Ni),
 - manganese (Mn),
 - cobalt (Co)
 - Zn



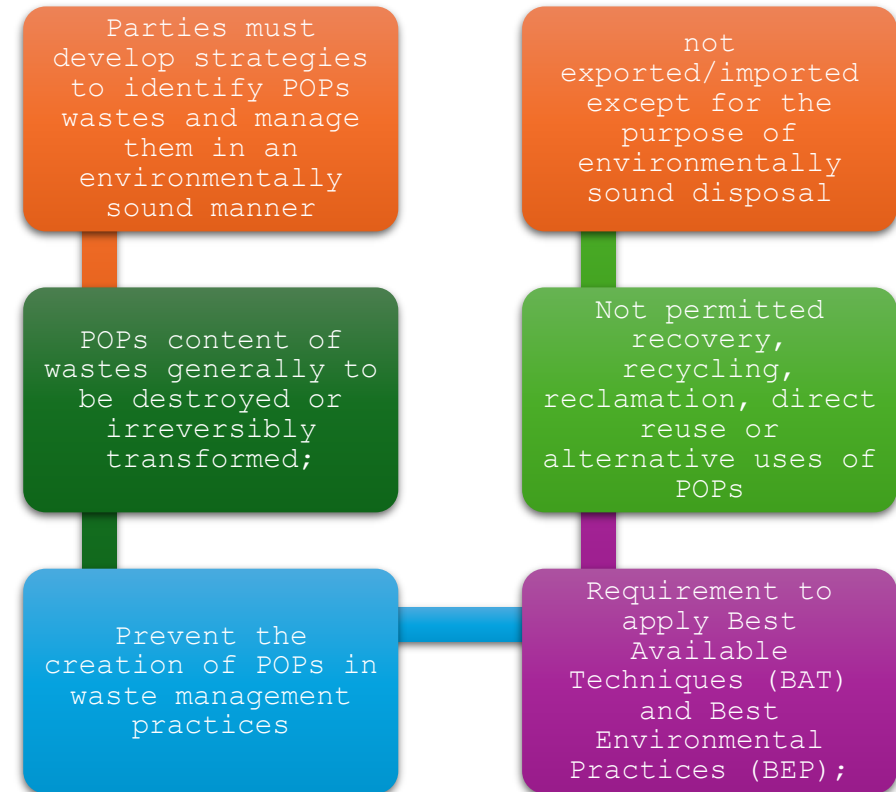
The Stockholm Convention on POPs

- Entered into force in 2025
186 Parties
- POPs in E-waste:
 - PCBs
 - POPs Brominated Flame retardants
 - POPs Perfluorinated substances
 - UV-328
 - Short and medium chain paraffins, etc.





Stockholm Convention provisions on POPs Wastes such as E-waste containing or contaminated with POPs



The Partnership for Action on Challenges relating to E-waste (PACEII) -



Established in
2022 by
decision BC-
15/22

Goal: to strengthen
the ESM of E-waste
with focus on five e-
waste streams,

Transfer of
knowledge
and
technologies

Dissemination
activities
Outreach
Education

Scale up pilot
projects with
the involvement
of private sector

Development of
guidance documents
on ESM of used and
waste equipment of
refrigerators, cooling
and heating
equipment and of TV
screens audio and video
equipment



PACE II

- Focus on used and waste:
 - TV screens, audio and video eq;
 - Refrigerators, cooling and heating equipment;
 - Mobile Phones; and
 - Computing Equipment.
- Programme work on:
 - Pilot projects; e.g. **Promoting the nexus between EPRs and the Digital Product Passport in Batteries**
 - Dissemination activities;
 - Development of ESM guidance on used and waste: TVs, refrigerators, cooling and heating equipment;
- Partnership reaches out to over 1000 entities involved with the members.

DPP for ICTs

- **Key Features of ITU-T L.1070**
- **Digital Format:** Replaces traditional paper manuals and labels with accessible digital records, unique identifier
- **Lifecycle Coverage:** Tracks details from material origin, design, and manufacturing to energy use, maintenance, repair, and final recycling.
- **Granular Tracking:** Applies to individual serial items, batches, or entire product models.
- **Dynamic Updates:** Records changes over time, including upgrades, reconfigurations, and repairs.
- **Supports traceability during the life cycle**
- **Circular Economy:** Helps reduce electronic waste (e-waste) by making material composition and disassembly clear for recyclers and repairers.
- **Transparency:** Assists stakeholders in tracking environmental footprints and verifying regulatory compliance.
- **Standardization:** Aligns with related frameworks like [ITU-T L.1071](#) (which defines the data and information model)

DPP for ICTs data model L.1071

Data model developed in the ITU standard L1071

Includes information, among others on:

Hazardous substances

Hazardous characteristics

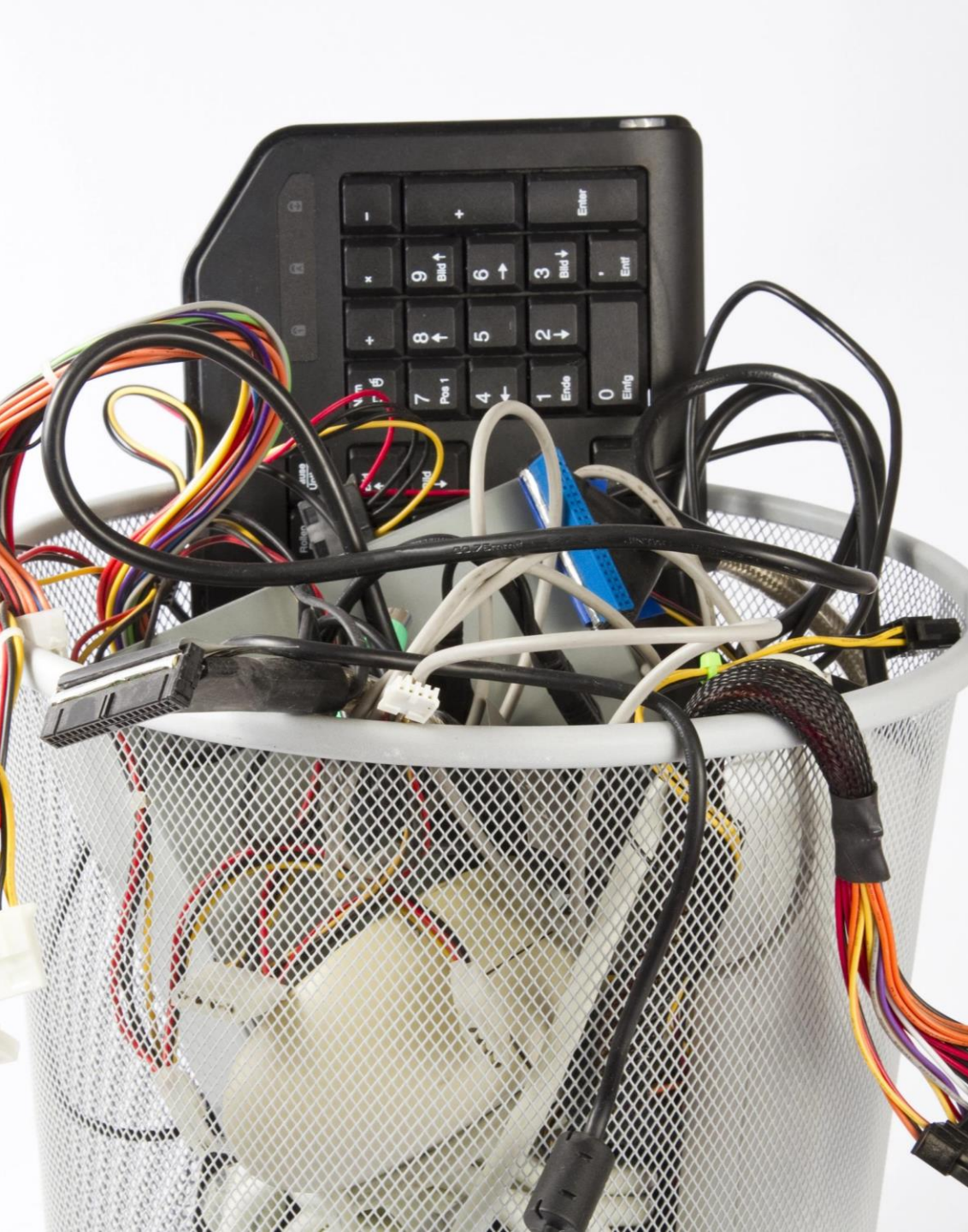
HS codes

Reference to International relevant Agreements e.g.

Basel Convention references

Stockholm Convention relevant information





DPP and EPR

- Digital Product Passports (DPPs) can link product data to [Extended Producer Responsibility \(EPR\)](#) frameworks by providing information on:
- the verifiable lifecycle
- material, and recycling data required to manage end-of-life obligations
- Responsibility for the take back, assigned from the entry of the product into a country



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attention!

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