BDT Publications Highlights Template

I. Key takeaways

- **What are the main arguments?**
    - Globally, from 2010 to 2022, the amount of e-waste generated per year nearly doubled, outpacing the documented formal collection and recycling rate by a factor of almost 5. The growth in e-waste is largely the result of technological progress, increased consumption, limited repair options, short lifecycles and inadequate e-waste management infrastructure.
    - The overall annual economic monetary cost of e-waste management is estimated at USD 37 billion worldwide. The value obtained from metal recovery and avoided emissions can increasingly offset these costs. Under a progressive scenario where the global collection and recycling rate rises to 38 per cent by 2030 (the target established for the EU), the cost of e-waste management will approach net zero.
    - Despite increasing awareness of the environmental, health, and labor impacts of improper e-waste management and the benefits of a circular economy approach, low collection rates and limited recycling infrastructure persist in many parts of the world. The implementation gap is particularly prevalent in low- and middle-income countries where the informal sector plays an important role in e-waste management.
    - Efficient and effective regulation is a crucial step to not only curb undocumented flows of e-waste and protect the environment and human health, but also secure future supply chains by recovering metals contained in e-waste.

What is the publication saying that is new?

- Policy-makers can use e-waste data to strengthen collection systems and set realistic recycling targets. The latest Global E-Waste Monitor tracks global and regional trends in collection and recycling, examines the economic costs and benefits of e-waste management, and – for the first time – compiles data on treatment technology innovations and patent applications.
- Transboundary movements of e-waste prove difficult to monitor, but recent reporting efforts and person-in-the-port projects are increasing transparency around licit and illicit flows. Uncontrolled and undocumented shipments from high-income to low- and middle-income countries comprised the majority (65 per cent) of transboundary movements in 2019. Europe, East Asia and North America are the main exporters of e-waste, while Africa, South-east Asia and Central and South America are the main recipients.
- The transition to clean and renewable energy sources depends upon the use of solar photovoltaics, electric vehicles, and other energy-related electrical and electronic equipment (EEE). In the near future, the widespread adoption of these technologies will affect both the demand for rare-earth elements and critical raw materials, and the amount of e-waste generated. Waste from photovoltaic panels, for example, is expected to increase fourfold from 2022 to 2030.

- **How does it help the work of our stakeholders?**
    - The 2024 Global E-Waste Monitor provides 3 scenarios which set out differentiated pathways for high-income and low- and middle-income countries to ramp up ambition on e-waste management.
    - National policies and targets should reflect a country's specific e-waste concerns and challenges. However, any substantial increase in the collection and recycling of e-waste will require extensive cooperation between the formal and informal sectors, and major improvements to the work of the informal sector.

II. Key statistics

- **Global trends:** In 2022, the world generated a record 62 billion kg of e-waste (equivalent to an average of 7.8 kg per capita annually). Only 22.3 per cent (13.8 billion kg) was documented as formally collected and recycled in an environmentally sound manner, which likely puts the ITU's target for 2023 – a 30 per cent collection and recycling rate – out of reach.
- **Regional trends:** Formal documented collection and recycling rates vary widely by region. In 2022, Europe had the highest per capita collection rate at 42.8 percent, followed by Oceania at 41.4 per cent and the Americas at 30 per cent. Asia and Africa had the lowest collection rates, with 11.8 and 0.7 per cent respectively.
- **Environmental and health impacts:** Currently, 58 thousand kg of mercury and 45 million kg of plastics containing brominated flame retardants are released into the environment every year as a result of non-compliant management of e-waste.
- **Economic costs and benefits:** The value of the metals contained in the e-waste generated in 2022 is estimated at USD 91 billion, while the value of recovered metals is estimated at USD 28 billion. Even when the benefits of metal recovery and avoided emissions are factored into an economic assessment, the costs of e-waste treatment and the hidden externalized costs for society (e.g. socio-economic inequalities, environmental and labor impacts) are estimated at 88 billion USD.
- **Legislation:** As of 2023, 81 countries have adopted e-waste policies (up slightly from 78 countries in 2019). However, regulation and enforcement often falls short: countries with legally binding instruments achieved a collection and recycling rate of 25 per cent on average, compared to 0 percent for countries with no such legislation in place.
- **Outlook and projections:** In a business as usual scenario, based on current trends, the amount of e-waste generated worldwide will reach 82 billion kg by the end of the decade, while formal collection and recycling rates will decline to 20 per cent. Countries must pursue ambitious action to reach a global collection and recycling rate of 38 per cent (or above) by 2030.