The UN Secretary-General's Advisory Board on Zero Waste

THEMATIC BRIEF

The Power of Electronic Reuse in Mitigating Global Waste Crisis

Source: Flickr, Katherine Behar

E-WASTE

Electronic reuse is paramount in addressing the escalating challenges posed by electronic waste (e-waste), which has become one of the fastest-growing waste streams globally.

Electronic devices contain valuable resources such as rare earth metals, the extraction of which contributes to environmental degradation and social conflicts.

By promoting electronic reuse, we not only reduce the volume of e-waste entering landfills but also conserve precious resources and mitigate the negative environmental and social impacts associated with electronic production and disposal.

Linkages to Zero Waste

Electronic reuse is a crucial aspect of zero waste initiatives. Key issues and challenges addressed by electronic reuse include:

- Reducing the environmental impact of electronic waste, including soil and water contamination. (1)
- Lowering health hazards linked to hazardous electronic components. (2)
- Addressing the unsustainable extraction of resources like rare earth metals for electronic production.
- Tackling the lack of awareness and infrastructure for electronic reuse and recycling.
- Enhancing product take-back opportunities to facilitate the reuse and recycling of electronic devices.

Opportunities presented by electronic reuse include:

- Extending the lifespan of electronic devices through refurbishment and repurposing.

- Promoting a circular economy model, where resources are reused and recycled rather than disposed of.
- Creating economic opportunities through job growth in the repair and refurbishment sectors. (3)
- Encouraging responsible consumption habits and fostering community engagement in waste reduction efforts based on SDG 12. (4)

Objective

This brief aims to inform consumers and policymakers of the incremental steps which can be taken to deal with the proliferation of electronic waste. By describing the complexity of the supply chain and the challenge of disaggregation the brief also aims to highlight the essential importance of product design in electronics to move towards a zero waste trajectory.

Key Findings and Implications

Achieving a circular economy in electronic reuse requires a multifaceted approach addressing product design, responsibility, promotion, education, and collaboration among government, industry, and civil society stakeholders. This involves encouraging manufacturers to design durable and repairable products while implementing extended producer responsibility (EPR) policies to ensure manufacturers manage the entire lifecycle of their products. Additionally, promoting reuse and refurbishment through infrastructure, incentives, and consumer education is crucial. By

employing these strategies, we can cultivate a culture of reuse, reduce electronic waste, and move towards a more sustainable and circular economy.

Here are some of the concise **key findings** on electronic reuse:

Reduction in E-Waste: It significantly reduces the need for raw material extraction and energy-intensive manufacturing processes. According to the WHO, in 2019 alone, approximately 53.6 million metric tons of electronic waste were generated worldwide, of which only 17.4% were recycled. (5)

Resource Conservation: It can boost conservation efforts of resources and materials.

Economic Benefits: It can create jobs in refurbishment, repair, and resale sectors. Using a circular economic model in the electronics sector could cut consumer costs by 7% by 2030 and 14% by 2040. (6)

Digital Equity: Reusing electronics can bridge the digital divide. About one-third of the global population, or 2.6 billion people, remain offline (7), highlighting the persistent digital divide.

Some of the *challenges* include:

E-waste Exportation: The UN warns exporting used electronics to countries with weak laws worsens the e-waste crisis and risks environmental damage and health issues. (8)

Quality and Reliability: Consumer Reports have found that reused devices could fail to meet standards, resulting in consumer dissatisfaction and a lack of trust in refurbished products.

Regulatory Compliance: Electronic reuse businesses face challenges in adhering to regulations concerning e-waste, data protection, and product safety.

Recommendations and Call to Action

To achieve a zero waste future, repurposing electronic devices emerges as a powerful strategy. Below are some actionable recommendations:

Individual Initiatives: Extend the lifespan of your electronics through maintenance and repairs.

Consider creative reuse options like:

- Transforming old smartphones into bedside clocks or security cameras.
- Converting tablets into dedicated video call stations or digital photo frames to stay connected or display memories. (9)

Organizational Engagement: Implement policies within your company to promote electronic reuse and partner with certified recyclers.

Example initiatives include:

- Using old computers as media servers for home entertainment.
- Donating old hardware to organizations like Digitunity, benefiting schools and nonprofits.

Policy Advocacy: Advocate for legislation supporting sustainable practices and consumer empowerment.

Examples include:

- EU regulations mandating USB Type-C charging ports in all mobile devices by 2024.10
- Supporting extended producer responsibility programs to hold manufacturers accountable for end-of-life management.

- Encouraging companies to lease electronics to consumers; once the device reaches its maximum lifespan, the producer recycles, maintains, or refurbishes it.

Further Info

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A short ideo prepared for UNEP by Prof. Saleem H. Ali: The Hidden Elements of Working from Home amidst COVID.

Find it here.

Contact us on advisoryboard.zerowaste@un.org and visit our website.

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