

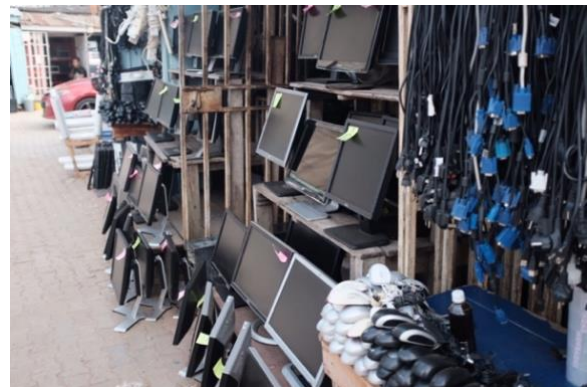
## Policy Brief: Blueprint for Ultimate Producer Responsibility

### Introduction

Extended Producer Responsibility (EPR) has been implemented around the world since the 1990s on a national scale. Current EPR structures do not address the multiple product use cycle (second hand) and across borders (transboundary trade) of electronic devices like computers, washing machines, laptops, mobile phones etc. This policy brief sketches the contours of a new format which takes the multiple cycles and border crossing features as fundamental starting point to ensure circularity and sustainability by expanding the EPR concept to Ultimate Producer Responsibility (UPR).

### Part I: Description

1. Ultimate Producer Responsibility (UPR) definition: the financial responsibility for collecting and recycling according to the highest possible value retention option (R hierarchies<sup>1</sup>) falls upon the manufacturers, no matter where the product geographically is finally collected and recycled. This also implies that producers must ensure traceability both in exporting and importing countries.
2. Ultimate Producer Responsibility (UPR) addresses the limited scope of the existing Extended Producer Responsibility (EPR) schemes, where producers are made responsible for end-of-life management of electronic and electric equipment (EEE) under the “polluters pay principle”. However, the existing EPR arrangements ignore multiple use cycles of EEE and have limited control after the first collection in the countries applying EPR regulations<sup>2</sup>. Significant volumes of used EEE (UEEE) move from the European Union and



other high-income countries to low-income countries like Nigeria for the purposes of reuse. A case study<sup>3</sup> found one-third of the incoming UEEE does not function. Such trade in second-hand UEEE do not always guarantee functionality or durability, and thus circularity of the products.

3. Since the existing EPR schemes make the producers responsible for the end-of-life management of all EEE within the national jurisdiction only, we argue that for fairness and truly global circularity,

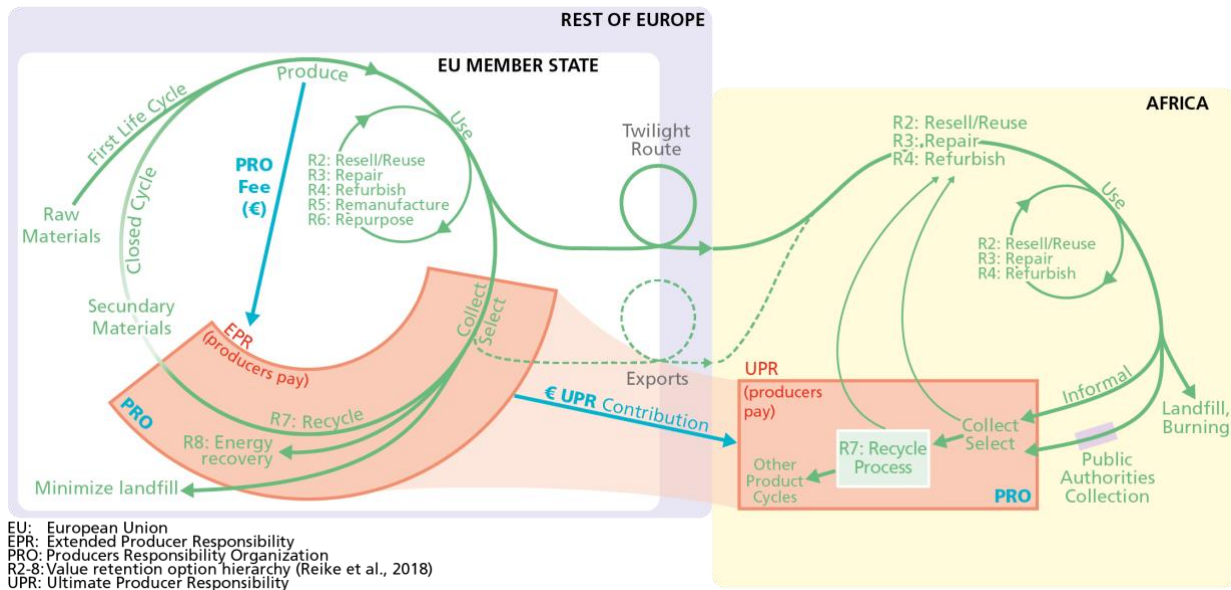


Figure 1 Sketch of Ultimate Producer Responsibility in the context of international repetitive product use cycles

the original producer should be responsible for their products until its ultimate end-of-life, domestically or internationally. This means, if a second-hand laptop is sold to an African country from any European member state, the original producer, for example via the Dutch EPR system, take responsibility for first extending its lifetime as much as possible and then the end-of-life management of the laptop when it becomes non-functional.

4. The transformative UPR takes international trade in second-hand EEE into account, along with the fact that not all countries in the world have the capacities to process end-of-life EEE sustainably yet. The producers, who bear the ultimate responsibility for sustainable end-of-life of its EEE, should facilitate capacity building. Such capacity building should come in a combination of funding and technology and knowledge transfer.
5. In the European context, where consumer EEE are required to have EPR for end-of-life management, UPR includes a financial, technology and knowledge transfer mechanism from EU-

based EPR programmes to countries that import second-hand EEE from Europe.

6. Keeping in mind that the increasing e-waste globally can cause significant harm, the UPR system must also prioritize on preventing second-hand EEE from becoming e-waste and enable value retention through repair and refurbishment to extend the life of the product before end-of-life management (recycling) and resource extraction.
7. All UPR practices everywhere must follow national and international sustainability guidelines with respect to human rights, fairness and justice, as well as all usual environmental sustainability principles.
8. UPR is dedicated to upgrading and the final treatment of imported EEE following international standards and sustainability guidelines in second-hand importing countries. UPR system enables value-adding through repair and refurbishment to extend the equipment life and establish sound end-of-life management systems for the large volume of second-hand EEE usage. It should ensure proper end-of-life treatment, in line with the

CENELEC guidelines for recycling companies<sup>4</sup>.

9. For a just transition to the circular economy, UPR is a necessary tool to enable a future where the environmental and health harm caused by e-waste are significantly reduced, while creating better job opportunities in equipment refurbishment and resource recycling.



## Part II An evidence-based case for Ultimate Producer Responsibility

10. The Person in the Port Project in 2015 and 2016 found 71,000 tonnes of second-hand EEE being imported to Nigeria, 77% of which arrived from the EU and 11% of which were non-functional<sup>5</sup>. The *Federal Republic of Nigeria Official Gazette – National Environmental (Electric / Electronic Sector) Regulation* (2011, B-



764)<sup>6</sup>, which sets out EEE regulations in Nigeria, recognizes the demand for used EEE to bridge the “digital divide” and make information communication technology equipment available at affordable prices. However, the document acknowledges that this demand has led “to a massive flow of obsolete e-waste to the country”.

11. *In-depth review of the WEEE collection rates and targets*<sup>7</sup> (2020) finds various second-hand EEE devices exported to Western Africa to be reused while being mixed with non-functional equipment. Even though precise data in most EU countries are lacking, the research combines various other research on used-EEE (servers, mainframe, printers, medical devices, fridges, microwaves, laptops etc.). The report<sup>7</sup> presents regional averages, which the report says are underestimated: Northern Europe sends 0.3,  $\pm 0.3$  kg/inhabitant, Western Europe sends 1.0,  $\pm 0.8$  kg/inhabitant, while no data are available for Eastern and Southern Europe. The report *Transboundary movements of used and waste electronic and electrical equipment* (2016)<sup>8</sup> use EU COMEXT data to find that exports of UEEE and e-waste doubled from 5,000 tons to 10,000 tons from 2008 to 2013, which again the report says to be an underestimation.

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Photos: Computer Village, Lagos, Kaustubh Thapa

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## References:

<sup>1</sup> Reike, D., Vermeulen, W. J., & Witjes, S. (2018). The circular economy: New or Refurbished as CE 3.0? — Exploring Controversies in the Conceptualization of the Circular Economy through a Focus on History and Resource Value Retention Options. *Resources, Conservation and Recycling*, 135, 246–264. <https://doi.org/10.1016/j.resconrec.2017.08.027>

<sup>2</sup> Vermeulen, W.J.V., C.W. Backes, M.C.J. de Munck, K.Campbell-Johnston, I.M. de Waal, J. Rosales Carreon, M.N. Boeve, (2021) Pathways for Extended Producer Responsibility on the road to a Circular Economy, White paper based on a literature review and the results of a Delphi study, on the experiences with EPR in the Netherlands, Utrecht University, Circular Economy and Society Hub, Utrecht. <https://doi.org/10.13140/RG.2.2.11527.93602>, and; Campbell-Johnston, K., Munck, M., Vermeulen, W. J. V., & Backes, C. (2021). Future perspectives on the role of extended producer responsibility within a circular economy: A Delphi study using the case of the Netherlands. *Business Strategy and the Environment*. Published. <https://doi.org/10.1002/bse.2856>

<sup>3</sup> Odeyingbo, O., Nnorom, I. and Deubzer, O. (2017). *Person in the Port Project: Assessing Import of Used Electrical and Electronic Equipment into Nigeria*. UNU-ViE SCYCLE and BCCC Africa.

<sup>4</sup> <https://www.cencenelec.eu>

<sup>5</sup> Odeyingbo, O., Nnorom, I. and Deubzer, O. (2017). *Person in the Port Project: Assessing Import of Used Electrical and Electronic Equipment into Nigeria*. UNU-ViE SCYCLE and BCCC Africa.

<sup>6</sup> The Federal Republic of Nigeria Official Gazette – National Environmental (Electric/Electronic Sector) Regulation, 2011

<sup>7</sup> C.P. Baldé, M. Wagner, G. Iattoni, R. Kuehr, In-depth Review of the WEEE Collection Rates and Targets in the EU-28, Norway, Switzerland, and Iceland, 2020, United Nations University (UNU) / United Nations Institute for Training and Research (UNITAR) – co-hosting the SCYCLE Programme, Bonn, Germany.

<sup>8</sup> Baldé, C.P., Wang, F., Kuehr, R., (2016), Transboundary movements of used and waste electronic and electrical equipment, United Nations University, Vice Rectorate in Europe – Sustainable Cycles Programme (SCYCLE), Bonn, Germany.