Position paper

Production, use, and disposal of Electrical and Electronic Equipment (EEE) have severe environmental impacts. The increasing demand for such devices exhausts valuable resources, causes high energy demand, and frequently leads to the release of substances harmful for human health and the environment. In 2021, the amount of EEE put on the market was 13.5 Million tonnes.\(^1\) This is an increase of 85.5 % compared to 2013. In 2021, only 4.9 million tonnes of e-waste were collected in the EU.\(^1\) At the same time, major environmental problems are still not solved or become even worse, such as short-lived electronics, poor repair conditions, low reuse quantities, complex and material-intensive design, toxicity and improper disposal routes.

The original Directive on Waste from Electrical and Electronic Equipment (WEEE) presented a pioneering approach to environmentally sound management of e-waste and was a first step towards a circular economy model.\(^2\) However, since the entry into force of this directive in 2012, the challenges in dealing with EEE have grown and considerable technical developments have taken place so that the current WEEE Directive is no longer fit for purpose. In particular, the main focus on end-of-life throughout the directive is no longer appropriate. It is therefore urgently necessary that the WEEE Directive is quickly and fundamentally revised, expanded and updated. Furthermore, it is recommended to consider a conversion of the WEEE directive into a WEEE Regulation, since a regulation comes into force immediately, is more legally binding and ensures more harmonised rules throughout Europe. In the context of the upcoming review, the European Commission should:

10 key recommendations

1.) Set quantitative targets to reduce environmental footprint from EEE.
2.) Promote horizontal ecodesign and information requirements.
3.) Phase-out substances of concern by design.
4.) Apply the right to repair.
5.) Promote re-use.
6.) Increase and enforce producer responsibility.
7.) Enhance WEEE collection.
8.) Set modern rules for WEEE treatment, collection, logistics, and preparation for re-use.
9.) Stop illegal exports.
10.) Ban the destruction of unsold EEE.

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1. Set quantitative targets to reduce the environmental footprint of EEE.

In order to prioritize measures for reducing the use of resources for EEE in the sense of the European waste hierarchy, an effective and binding reduction target is urgently needed. Only with such directional reduction targets, it is ensured that the environmental impact remains within planetary boundaries. We propose that such targets should be absolute (e.g. kg per capita) rather than relative at the Member state level to not benefit overconsuming Member States. Further specifications of reduction targets can support corresponding measures, for example in relation to the total environmental footprint, the use of (material-specific) primary resources, or the quantity of EEE put-on-market per inhabitant. Such targets would have a promotional effect in terms of reducing the overconsumption of electrical appliances, the more efficient use of resources in EEE, durability and repairability of EEE as well as the use of recycled content. Additionally, separate targets regarding reuse, repair and preparation for reuse must be set.

2. Promote horizontal ecodesign and information requirements.

Ecodesign criteria must be more focused in legislation to achieve a fundamental change in the way of dealing with electrical appliances. A new WEEE Regulation must apply the best environmental principles from the Waste Framework Directive by prioritising product lifetime extension over component recovery, and component recovery over material recovery. For this purpose, it should require designing all EEE to ensure their longevity and repairability. Spare parts (particularly batteries, displays, lamps and other wear parts) should be easily removed and replaced, thus enhancing general repairability and durability.

Furthermore, better product design for non-destructive disassembly will help recover EEE components and materials, especially CRMs. This will support the deployment of the EU’s green and digital transition. Binding recycled content targets for post-consumer waste plastics must be integrated into the WEEE regulation in order to promote high-quality and close-loop plastics recycling and reduce the use of fossil-based plastic. Additionally, recycled content targets are necessary for CRMs (Critical Raw Materials) and other metals used in EEE.

A mandatory digital product passport (DPP) will help enhance consumer information and workers’ health. Essential information on EEE safe dismantling and composition, as well as manufacturing year, should flow throughout the supply chain to facilitate the preparation for re-use, preparation for repurposing, repurposing or remanufacturing of EEE, as well as recovery of components and valuable materials, such as CRMs. The DPP should also include information on CRMs, their location and how to dismantle them to support their safe recovery.

3. Phase out substances of concern by design.

All EEE should be designed toxic-free, e.g. by banning flame retardants (as in most uses they do not provide any meaningful fire safety benefit)\(^3\), persistent organic pollutants, per- and polyfluoroalkyl substances (PFAS) in EEE by design from a precautionary perspective. Where substances of concern are essential, they should be minimized and full transparency on chemical content and safe use and disposal should be required and passed on to the end-of-life stage of WEEE.

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\(^3\) Green Science Policy Institute (2023) Electronics - Flame retardants in electronics casings do not provide a fire safety benefit [greensciencepolicy.org/our-work/electronics](http://greensciencepolicy.org/our-work/electronics)
Therefore, it is necessary to align WEEE legislation better with corresponding laws such as Regulation (EU) No 2019/1021 (POP regulation) or Directive 2011/65/EU (RoHS) and establish more general restrictions, in line with the EU 2020 Chemicals Strategy for Sustainability and the European Sustainable Product Regulation proposal.

4. Apply the right to repair.

A basis for a fundamental ‘right to repair’ must be introduced into EU legislation and applied also to WEEE. This includes open access to repair information (typical defects, disassembly instruction etc.) and spare parts for both independent repairers and consumers. Spare parts and software updates must be secured for the expected lifetime of EEE at a reasonable price or for free, respectively. Software should not be used to impede repairs by repairers not affiliated to the OEM. Maintenance work as well as exchange of wearing and spare parts should be easily possible without damaging the device and without requiring special tools. Also, a repair index must be prescribed by law to enable the identification of durable and repairable products by customers. In addition, EPR-funded support for repair, tax credits, and mandatory repair targets should be established.

5. Promote re-use.

Re-use and/or preparing for re-use targets that are separate from collection and recycling objectives should be set, as already established in several Member States (e.g. Spain, France) and European regions (e.g. Wallonia, Flanders). The recent study on options for return schemes of mobile phones, tablets and other small EEE conducted on behalf of the Commission highlights the significant potential of such targets in terms of environmental and economic benefits, provided that these schemes also cater to preparation for re-use systems.

Article 6 (2) of the WEEE directive on WEEE separate collection and transport must be revised and make it absolutely clear that reusable products should be collected in a way that safeguards their reusability, for example by making their storage in weatherproof facilities mandatory and avoiding dropping. The assessment of the reusability of a WEEE item must happen at the earliest stage possible before it is mixed with recyclables. Therefore, it is recommended that already during collection, consumers separate goods that are still functional.

Additionally, priority access to collected devices should be provided for accredited (preparation for) re-use operators to conduct waste prevention and management activities. The need for proper access to WEEE by preparing for re-use organizations has already been highlighted in the Commission’s study on recovery and re-use targets in 2015.

In addition, EPR schemes must finance the improvement of WEEE collection facilities to fit the needs of re-use and preparing for re-use operators, participate in the funding of preparing for re-use activities, and measures to increase public awareness as regards re-use services and benefits. In line

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4 RREUSE (2022): Re-use Targets, rreuse.org/wp-content/uploads/2022/03/re-use-targets-factsheet.pdf
5 European Commission – DG ENV (2022): Study on options for return schemes of mobile phones, tablets and other small electrical and electronic equipment in the EU, op.europa.eu/s/y0iB
with the waste hierarchy, the financial support for the tonnage collected for successful preparing for re-use and re-use must be higher than for the tonnage collected for recycling. A portion of the EPR fee should also be earmarked for social economy actors, as is the case in France. European WEEE standards should be revised accordingly so that preparation for re-use is prioritised over recycling (see further details in point 8).

6. Increase and enforce producer responsibility.

To further improve environmentally friendly WEEE management, increased producer responsibilities are necessary. Current provisions in Article 23 of the WEEE directive do not go far enough to avoid circumvention of responsibilities by producers. It is key that producers bear more financial responsibility to collect e-waste through obligatory participation in nationwide networks for WEEE return for which collection and (preparation for) reuse targets should become legally binding.

These schemes can be further enhanced through the introduction of modulated fees, prioritising circular design and waste prevention in accordance with the EU waste hierarchy. France is already using such fee modulation for EEE, and so the EU should endeavour to emulate such a model, earmarking funds to support activities like repair that contribute to overall waste reduction.

In particular, online platforms such as Amazon or Wish have so far evaded legal obligations on WEEE take back of third-country sellers, and should also be subject to full liability for such sellers, especially given the fact that they play a leading role in placing non-compliant EEE on the market. Studies from the IMCO group in the EP, the EEB and les Amis de la Terre are currently assessing the extent of the damage caused by these marketplaces and so will highlight the urgency of tightening regulation of these platforms. Most importantly, online platforms shall not enable selling EEE from unregistered producers. Germany has successfully addressed this issue by introducing such an obligation in 2023. It resulted in more than 10,000 new registrations. These checking obligations for platforms should be extended to all producer and distributor obligations.

Moreover, EPR schemes could also be used to tackle the issue of WEEE shipped outside the EU, e.g. through financing clean-up costs of WEEE export and pollution, particularly in Global South.

Finally, producer’s reporting and transparency responsibilities should be increased, and collection reports should be publicly available to increase accountability.

7. Enhance WEEE collection.

Data for 2019 reveal: Almost all Member states fail to collect sufficient WEEE separately and therefore do not reach EU target of 65 percent collection. A study indicates up to 4.8 million tonnes of WEEE are disposed improperly every year (e.g. recycled under non-compliant conditions, into nature, etc.).
residual waste streams or illegal exports) or being hoarded and therefore lost for re-use and recycling.\textsuperscript{11}

There is an urgent need for greater consumer-friendliness for WEEE return, better consumer education and new financial incentives for actors to achieve high collection volumes. All producers should be obligated to join a producer responsibility organisation (PRO), which must ensure comprehensive and nationwide networks for WEEE return, fulfil individual collection targets and ensure effective and continuous activities to enhance consumer awareness. Producers individually are not equipped to fulfil the necessary obligations, thus PROs are the necessary consequence.

Distributors’ return obligations (Article 8 (2) c) should be specified in such a way that all distributors with a total sales area of more than 100 m\textsuperscript{2} are responsible to accept small WEEE (0:1 take back). Taking only the specific selling space for electric equipment as a basis has shown to cause enforcement issues (e.g. in Germany) and should not be allowed.

Additionally, it should be ensured that all distributors who place EEE on the market regardless of their size should be required to take back WEEE if consumers buy a new EEE (1:1 take back) - Germany, e.g., does not have such a measure in place. Incentives should also be created for distributors to achieve the highest possible collection volumes, for example through remuneration by the EPR systems (with possible additional surcharges and discounts for collection quality).

In order to tackle current severe fire issues caused by improperly disposed EEE containing lithium-ion batteries and to achieve a reliable return of EEE containing particularly high levels of pollutants and recyclable materials, a deposit system should be established for certain EEE. The significant potential of deposit refund systems for smartphones, tablets and other small EEE is also highlighted by the recent EC study.\textsuperscript{5}

8. Set modern rules for WEEE treatment, collection, logistics, and preparation for re-use.

Requirements for treatment, collection, logistics, and preparation for re-use of WEEE in Europe were developed in 2002 and are outdated as well as inconsistently implemented across EU Member states. We propose to integrate provisions from CENELEC standards (EN 50625 and 50614 series) into the WEEE Regulation (see Joint Position), as already implemented in some Member states, ensuring that the relevant provisions are freely accessible and available in all the official languages of the EU. This would also have environmental benefits, particularly for Temperature Exchange Equipment, for which 6.3 MtCO\textsubscript{2}e greenhouse gas emissions may be saved annually, as a study on WEEE standards commissioned by DG Environment quantified.

While the level of ambition of the CENELEC standards must be preserved in all environmental, health and social aspects, further improvements should be considered. This is particularly important concerning more effective protection of WEEE against damage during collection, transport, and storage, especially to safeguard reusability (as mentioned in point 4).

To further promote collection and recycling of WEEE, separate recycling quota for plastics as well as prospectively for critical raw materials (e.g. tantalum, indium, and germanium) and other metals contained in EEE are necessary. Additionally, modern rules supporting the better dismantling of Electric Equipment, logistics practices, and recovery of critical raw materials from the CEWASTE project should be considered. In order to promote the European recycling infrastructure - especially for those materials that are currently not economically recyclable – recycled content targets from post-consumer WEEE should be prescribed, especially for CRMs like implemented in the EU Battery Regulation.

9. Stop illegal exports.

Illegal exports of e-waste cause serious environmental and social problems for receiving countries such as Nigeria, Ghana or India. To reduce these impacts, EEE should become longer-lasting and more repairable while also the shipment of items for re-use must be more strictly controlled and systematically reported (under the coming EDI system as planned under Waste Shipment Regulation) to rule out illegal exports of e-waste. In this context, a better regulatory differentiation between reusable and functional equipment is urgently required, e.g. minimum functional requirements and precise test procedures. As items shipped for re-use will have to be properly treated when reaching their end-of-life in receiving countries (within or outside the EU), financial compensation of this burden must be ensured by European EPR systems.

10. Ban the destruction of unsold EEE.

Given the massive environmental impact of the production and disposal of electrical and electronic equipment, it is irresponsible that large quantities of new EEE continue to be destroyed, for example as returns. Therefore, an immediate legal ban on the deliberate destruction or disposal of unsold EEE is necessary. Legal frameworks (such as WEEE, ESPR or WFD) must introduce a legally binding “duty of care” for producers and retailers. Medium size enterprises must also be included. Such legislation must ensure that unsold goods are not simply recycled, but resold or refurbished to minimize environmental impacts. Disposal should only be allowed for electronics that are not compliant with legal requirements.

For producers and retailers who already apply alternatives to destruction now, reduced value added taxes must be set. Loopholes and circumventions must be avoided through strict export requirements, a good monitoring system and efficient enforcement.

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