



Towards an EU WEEE Regulation:

the position of the
European Electronics
Recyclers Association

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EUROPEAN ELECTRONICS RECYCLERS ASSOCIATION

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1. Context of this report

In light of the flurry of initiatives being developed by the EU's Circular Economy Action Plan to bolster circularity and sustainability, the European Electronics Recyclers Association (EERA) wishes to put forth a series of recommendations for a review of the current WEEE Directive from the perspective of specialized European recyclers' first-hand experiences in the management of WEEE.

EERA is the voice of WEEE recycling in Europe being the professional association for the recycling and reprocessing industry. Our vision is for a resource efficient economy where WEEE is managed as a resource and is returned into the economy as a raw material or as equipment for re-use. A full recycling economy with market actors cooperating along the value chain, better collection processes, high quality recycling, appropriate regulatory framework, eradication of illegal practices and product design integrating a life-cycle approach is what EERA envisages. Our mission is to achieve a level playing field for fair competition in the WEEE value chain, harmonisation of regulations, effective and efficient recycling and reprocessing with prevention of pollution, minimization of emissions and a high quality of secondary raw materials and components.



Given the valuable and indispensable knowledge EERA members bring to the discussion on WEEE management in Europe, an independent survey conducted by Sofies was carried out in the form of an online questionnaire and intensive and focused interviews in order to gain recyclers' views on the key points concerning the current WEEE Directive and its implementation in their national contexts.

The aims of the Circular Economy Action Plan are ambitious and quality WEEE recyclers, united in EERA, are eager to contribute to these goals, but the results of this survey show there is a need for sustainable rules, clear thresholds and a climate that stimulates investments in new recycling technologies.

Most importantly, the predominant takeaway from this survey is that there is an urgency to move away from a Directive and towards a Regulation to address the striking lack of harmonisation (and related negative impacts) between Member States WEEE management systems.



In light of the above, WEEE recyclers play an essential role in ‘closing the loop’ for a circular European Union (EU), but they must have the necessary conditions to be able to properly carry out their operations.

As such, the following sections in this report will outline EERA’s key recommendations, across a range of topics, based on the most important gaps in the current legislation as well on national good practices that should be applied at EU level or which, to the contrary, should be changed. Rather than solely focusing on the topic of Extended Producer Responsibility (EPR), the survey focused on all aspects of recycling so that the recast of WEEE legislation can then truly contribute to the achievement of a circular economy for WEEE.

The proposals included in this report are correlated to the Articles set down in the WEEE Directive 2012/19/EU:

- Harmonised requirements across Member States (see 2.1)
- Scope (see 2.2)
- Product design (see 2.3)
- Collection (see 2.4)
- Proper treatment and equivalent conditions (see 2.5 and 2.6)
- Shipments of WEEE (see 2.7)
- Recycling and recovery targets (see 2.8)
- Information for treatment facilities (see 2.9)

1. https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en

2. Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)

2. Key points for a new WEEE Regulation

2.1 Harmonisation

The current WEEE Directive leaves room for significantly different interpretations by individual Member States of how to transpose the legislation at their national level. As a result, the obligations and conditions recyclers face in each Member State vary greatly, contributing to an uneven playing field in a variety of points (e.g. competition faced between operators, severity of enforcement, waste categories to abide by, registration requirements etc.).

The current situation reflects precisely what the Directive stated it wished to avoid in paragraph (6) of the preface:

“..different national applications of the ‘producer responsibility’ principle may lead to substantial disparities in the financial burden on economic operators. Having different national policies on the management of WEEE hampers the effectiveness of recycling policies. For that reason, the essential criteria should be laid down at the level of the Union and minimum standards for the treatment of WEEE should be developed.” 2012/ 19/ EU (6)

Nevertheless, in principle this has not been executed, which is why it is imperative that there be a shift from a Directive to a Regulation, thereby holding binding legal force to be transposed in every Member State, and overruling national laws.

In the quest for a truly Circular Economy across Europe, it is critical that recyclers in all Member States operate at the same level to be able to recover materials of the same quality, ensure high-level waste management that minimises environmental pollution in all Member States and that stimulates a culture of re-use and repair for products across the common market. As such, recyclers must be able to operate with uniform requirements that apply to all recycling businesses in the same manner across and from / to Europe. All the recyclers interviewed expressed support for a Regulation.

2.2 Scope (Article 2 of the WEEE Directive)

An imperative change needed within the current scope of WEEE legislation is harmonisation between the categories implemented across all Member States. The current divergences between the different countries create imbalanced operational conditions (e.g. Greece uses 63 sub-categories, which adds a great amount of administrative burden for Greek recyclers). Furthermore, in various Member States some producer collective schemes still operate using a combination of the previous and most recent WEEE categories, further inciting confusion and a lack of cohesion across the EU.

Additionally, there are issues with the manner in which the categories have been classified. Concretely, the current classifications according to size is not entirely useful. For example, the 50 cm dimension criteria for distinguishing small versus large equipment signifies that a printer which is larger than 50 cm is classified as a large appliance although its content is not entirely comparable to other products under this category such as a washing machine.

Clarity regarding general metal scrap collections for appliances and equipment in scope is also needed as for example older electric water boilers that may include insulation containing VFC/VHC gases often end up in general metal scrap along with washing machines and other similar equipment instead of being separated so that appropriate treatment and removal of any hazardous substances / components can be ensured.

The varying types of components and materials found in all WEEE can require difference processes, wherein to ensure WEEE goes into the appropriate treatment lines distinction between categories should be based more on the constituents of the product than its size. This also would provide for an approach that is more suitable for prioritising the recovery of key critical raw materials (CRM), as it's easier to recover materials within groups of products that share similar content and thus processing methods. The design of categories focused on product constituents should be done through a Best Available Techniques study with input from recyclers, who are extremely knowledgeable about these aspects, so that the CRM content and capture can be considered.

The harmonization of comparable legislation with the requirements within the current WEEE Directive is imperative, including a reconfiguration of what falls under “open” within the current scope. Aspects of the End-of-Life Vehicles (ELV) Directive should be integrated with WEEE legislation given the rapid increase in electrical parts found in vehicles. An illustrative example pointed out in the survey by recyclers is that circuit boards in WEEE must be recycled but not those within ELVs, which especially from a CRM perspective is nonsensical.

In the same manner, parts of the Batteries and Accumulators' Regulation should also be re-considered and integrated with a WEEE Regulation to compliment the requirements for easy removal, reporting, and the recovery of CRMs at facilities providing equivalent EU treatment standards are met.

2.3 Product Design (Article 4 of the WEEE Directive)

Product design should be directly linked to the ability to carry out proper recycling at its' end-of-life. At present recyclers face a number of prominent issues which obstruct adequate processing and thus the fulfilment of expected recycling and recovery targets.

As such, it is critical that product design recyclability elements be put to the fore and considered when conceptualising WEEE legislation so that quality recycling can be achieved in line with environmental goals of EPR legislation. Key points to address include:

- **Removability of batteries** – this is an urgent issue with recyclers reporting that the current placement of batteries is often so challenging for them to remove that the process usually greatly reduces the overall recyclability of the whole product.

3. https://ec.europa.eu/environment/topics/waste-and-recycling/end-life-vehicles_en

4. https://ec.europa.eu/environment/topics/waste-and-recycling/batteries-and-accumulators_en

- **Easy removability of circuit boards and hazardous parts such as capacitors and batteries** – this is required to avoid precious metals losses during the treatment processes and to ensure environmentally safe treatment. The definition of ‘removal’ in the current WEEE Directive (Article 3, 1) must remain valid as this includes manual, mechanical, chemical, or metallurgic handling with the result that hazardous substances, preparations, and components and those mentioned in Article 8 (2) (Proper Treatment) of the WEEE Directive are contained as an identifiable stream or identifiable part of a stream at the end of the treatment process.

Entirely manual disassembly requirements prior to mechanical separation (as being proposed in Germany) is not necessary as where specialist separation technology exists or is being developed, the use of mechanical plant and equipment remains the best opportunity to provide effective and economic recycling solutions.

There is also a need to concentrate the location of electronic parts within vehicles (e.g. circuit boards, non-automotive batteries etc.) so they can be easily identified within ELVs as currently these parts are often spread all over a vehicle and are difficult to remove, for example the inclusion of batteries in the walls and doors of vehicle manufacture makes them arduous to locate and remove at end-of-life, and incurs serious safety issues (e.g. fire hazards) for recycling operations.

- **Labelling / marking** – there is an urgent need to address the absence of easy and clear identifications for certain substances, materials, and components in EEE, for example, colour coding to demonstrate any hazardous or significant parts present. This issue is particularly important for batteries given their proliferation in the growing and broad range of equipment and ELVs and the uncertainty as to their location as highlighted by EERA in their report on the experiences and best practices with batteries in WEEE .

The identification of key CRMs focused components (e.g., circuit boards; batteries; NdFeB magnets and fluorescent powders) is equally important as highlighted in the CEWASTE report published in 2021. This must be addressed with clear labelling / marking providing recyclers with the relevant information.

- **Recycled content** – in order to ensure the closed loop objective of an EU circular economy it is essential to stimulate the demand for recycled materials which is currently deficient (e.g. absence of demand for recycled CRT glass given lack of usage in products). As such it is imperative that mandatory percentages of recycled content be put forth when designing and manufacturing EEE, so that recycled materials have a strengthened market position thus boosting routes for the materials treated.

Recyclers taking part in the survey reported identifying poor quality materials being used in a large number of products manufactured outside of Europe. This further highlights the need to subject imported products and materials to the same manufacturing standards and inspections, which producers within Europe to ensure internal endeavours for circularity and sustainability are not undermined.

5. <https://www.eera-recyclers.com/publications> EERA - Sharing experiences and best practices with batteries in WEEE

6. <https://cewaste.eu/wp-content/uploads/2021/04/CEWASTE-Final-Public-Raport.pdf>

Any recycled materials used in new products must meet European product requirements, particularly with regard to the use of chemicals and meeting REACH and RoHS. This is found to be especially problematic when used within products manufactured outside of Europe that are imported into the EU, with insufficient checks made.

- **Design for repair, re-use, and recyclability** – in recent years EEE has become more complex to process due to constant technological developments in their design, whereby there is a need to facilitate repair, re-use and recycling.

The European Commission's 'Eco-design' implementing regulations for certain appliances and accessories should be updated and extended to all EEE to include the opportunities for end-of-life so that products are designed for a seamless dismantling process, with modular parts and components that can be easily identified and swapped out for replacements.

Producers should work more in-hand with recyclers to develop options to ensure that issues are approached in advance rather than when the end-of-life is reached. Furthermore, materials/components used should be more standardised, with recyclers stressing an urgent need to reduce the variety of materials (and in particular of plastics) which reduce product recyclability.

Low-cost materials should not be prioritised at the expense of ease of treatment (recycling and recovery). Moreover, the manner in which products are built should be more homogenized to facilitate the ease of dismantling and removal of hazardous components. To this end, there should be restrictions on the use of materials like gum (e.g. used in control panels) and glue that impede easy dismantling/retrieval of materials.

The complexity of new designs also raises issues for recyclers when producers are mixing EEE types, for example refrigerators with a TV screen in the door and a computer component that allows a user to connect remotely to see the contents (to facilitate shopping); or the growing 'internet of things' which is linking EEE to other products and the user, which is likely to include personal data etc. Recyclers have to consider these hybrid products when planning and operating treatment plant.

2.4 Collection (Article 5 of the WEEE Directive)

The following crucial points regarding the collection of WEEE should be considered for new legislation:

- **Methodology for collection rates:**
 - ▶ EERA members advocate that EEE producers should remain responsible for all WEEE that they put on market, not strictly just WEEE that is 'available', as this would go against the essence of EPR objectives.
 - ▶ The collection targets should be more tailored to the category of product and its unique characteristics. For instance, with regards to PV panels it is particularly challenging to meet collection targets in various countries due to the prolonged lifetime (circa 20-25 years) of this equipment, wherein the current target is not suitable. Legislation should allow for distinction between targets for different rates achieved for different categories so that performance can be assessed contextually.

7. https://ec.europa.eu/commission/presscorner/detail/en/qanda_19_5889

- **Mandatory handover:** all WEEE management should be carried out exclusively by approved WEEE collectors and compliant recyclers that are contracted with producers and/or producer collective schemes, and that all WEEE that is collected by actors other than those pre-approved should be handed over to permitted actors (as done in Ireland, France, and the Netherlands). This will help ensure that large quantities of WEEE collected are not lost due to scavenging as well as ensuring the quality of collection is sustained.
- **Stimulate consumers into better discarding routes for the WEEE they generate:** the lack of consumer action regarding the depositing of WEEE was mentioned as a recurring issue for achieving the desired collection rates throughout this survey.

Thus, there is an urgent need to strengthen public awareness (aimed at both citizens and the professional sector) on options they have for responsible disposal of used and end-of-life EEE, as well as of the environmental, economic, and social importance of proper WEEE treatment.

The application of a visible fee (which is currently voluntary and a decision to be determined by each Member State) should be made mandatory across the EU in order to pay for the promotion of good practice and enhance awareness amongst consumers. Given that producers sell EEE into and across Europe, this would then ensure that the objective in paragraph 23 of the preamble to the WEEE Directive is met – “ by harmonising producer financing across the Union” .

As also noted in the preamble (24) this would also be in line with the European Commission’s “Communication on Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan”. This is already the case where EPR fee legislation is laid down in France, Belgium, and Italy, and is notable as being significantly lacking in certain other countries to the detriment of satisfactory collection rates.

Various respondents to this survey suggested the fee could be used to promote and host public awareness days and other positive activities, for example organizing visits to compliant recyclers to see how WEEE is handled and treated. Many Member States, producer collective schemes and treatment facilities already successfully embrace this concept, including hosting ‘bring-day’ events and visits by public and community groups and schools to recyclers to promote national and local sustainable objectives and best treatment practises.

- **Ensuring quality of collection:** It is fundamental that the quality of material collected is sufficient to enable proper recycling of WEEE, whereby:
 - ▶ Attainment to mandatory collection standard such as the CENELEC EN 50625-part 4 collections and logistics specification should be enforced for all WEEE collection and logistics operators as issues regarding damage to the WEEE recyclers receive is currently a significant challenge to adequate processing – for example preventing the use of compactors and uncontrolled tipping; and adhering to ADR and similar regulations for transport by road, rail or water, on the packaging, labelling, handling and transportation of equipment containing lithium batteries.

8. Article 14: Information for Users of Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)

9. Directive 2008/68/EC defines the requirements for transportation of dangerous goods by road, rail, or inland waterway within or between Member States, including the activities of loading and unloading, the transfer to or from another mode of transport and the stops necessitated by the circumstances of the transport. The European agreement and regulations concerning the international carriage of dangerous goods by road (ADR), rail (RID) and inland waterways (ADN) lay down uniform rules for the safe international transport of dangerous goods. Such rules are extended to national transport with Directive 2008/68/EC.

- ▶ Sorting (in a high-level manner) should start at the collection point / site as bulk collection practices currently suppose a notable number of issues (e.g. fire hazards and other dangers arising from presence of hazardous substances such as lithium-containing WEEE). As such, containers should be more adapted to the types of WEEE they hold given that the current treatment of everything as ‘bulk’ in most countries is counterproductive to maintaining the material’s quality.
 - ▶ Certain appliances and equipment should be collected separately: temperature exchange equipment (inc. fridges and freezers, air conditioning units, dehumidifiers, and tumble-dryers with heat-exchange pumps), screens and monitors that include mercury backlights or cathode ray tubes, gas discharge lamps; and any equipment with external and/or internal batteries such as electronic tools, laptops, mobile phones etc.; and those with other hazardous components (e.g. printers with ink and toner cartridges, radiators containing oil etc.).
- **Cost considerations of collections:** Many collection points / sites and producer collective schemes charge recyclers for certain metal-rich streams (e.g. large household appliances and ICT equipment). Given that recyclers often lose a large amount of value components in the WEEE received due to illegal scavenging, the costs of materials and components that are scavenged must be a consideration when determining payments paid by recyclers to WEEE holders for the material.

A good practice model mentioned by respondents happens in Italy, whereby efficiency rewards (financial bonuses) are paid by producer collective schemes to WEEE collection points / sites according to a set of thresholds that must be met. Where there is evidence of damage or significant scavenging taking place (e.g. compaction of WEEE containers, refrigerators without compressors, household appliances without motors, ICT equipment without circuit boards or CPUs etc.) the rewards are lowered.

2.5 Proper treatment (Article 8 of the WEEE Directive)

There is a pressing need for mandatory treatment standards to be in place across Europe. The current absence allows for an unlevel playing field to the detriment of compliant recyclers’ operations, as well as to the environment given the low-quality recycling conducted by recyclers operating outside of standards.

Furthermore, the unlevel playing field is not confined solely to national landscapes, but also between different Member States, given that in some countries mandatory standards are enforced that as a result fosters unfair competitive advantages for operators in less stringent regulatory contexts. This is particularly the case where non-compliant recyclers are situated along country borders or within short transport distances.

Compliance to the CENELEC EN 50625 series (treatment of WEEE) and the EN 50614 (preparing for re-use of WEEE) standards, given their robust and existing wide reach, should be made mandatory for all WEEE re-use operators and recyclers - with enough implementation time to allow for the uptake by operators that are currently non-compliant. Once enforced, producers and producer collective schemes should only be allowed to work with competent preparing for re-use operators and recyclers (i.e. those who can show evidence they comply with the standards), as done in Italy, the Netherlands and Ireland for instance.

Moreover, it is important that there be a harmonised training for auditors and / or inspectors between Member States as the assessment process varies considerably due to differing interpretations from auditors, assessors, or inspectors, thus varying the level of understanding, knowledge and enforcement of the standards and regulations depending on the country.

Enforcement in the realm of WEEE management must be strengthened against rogue actors and operators acting outside of legal requirements, with recyclers interviewed across all the Member States naming scavenging as a notable adversity. From an economic point of view, the severe impact of scavenging is evident as when considering the total WEEE generated in the EU28 (including Norway and Switzerland).



More importantly, the environmental impact of scavenging is also striking. A clear illustration being the scavenging of fridge compressors, which is linked to the VFC / VHC gasses contained in the refrigeration circuit being illegally released into the environment that, according to EERA's research , equates to 3.6 million tonnes of CO2 equivalent, or the annual emissions of 2 million cars.

Approaches for preventing scavenging, as mentioned above in 2.4, are currently not adequate in many Member States to effectively dissuade these actions, as such, scavenging should be persecuted as a criminal offence with severe fines and/or prison sentences for any flagrant disregard of the legislation, as ultimately legal contraventions present threats to the environment and to the health and safety of European citizens.

A coordination body with robust enforcement capacities could be created in order to enhance and support the current state of enforcement, alongside an independent register would ensure the neutrality and legitimacy of figures reported by actors.

Furthermore, there is a need to provide training to auditors, assessors, and enforcement bodies as recyclers report those checking WEEE operations and material often lack adequate knowledge about the substances, components and fractions and re-use / treatment procedures they are monitoring.

10. CENELEC are under the Mandate M518 from EC and that there is the obligation of a continuously improvement process of reviewing EN every 5 years and TS every 3 years, in which all stakeholders can participate.

11. <https://www.eera-recyclers.com/publications> - EERA report on the Scavenging of WEEE

Moreover, the variable interpretations of rules spark notable differences in implementation both within and between Member States. Standardised enforcement guidelines for authorities and agencies should be introduced so that WEEE-related crimes can be dealt with more promptly, effectively and in an aligned fashion.

A number of respondents to the survey mentioned that the absence of adequate communication channels in their countries between the different parties in the WEEE sector (e.g. recyclers, producers, collective schemes, municipalities, and regulators etc.) impeded good working practices and shared knowledge.

National level platforms or forums that enable this coordination and collaboration between different groups are necessary in order to foster dialogue and collaboration in the achievement of WEEE collection and treatment targets. An example of good practice is the working group in Ireland, which is facilitated by the Environment Ministry, to enable discussion between all Irish stakeholders wanting to participate so that everyone is heard nationally on all aspects of WEEE legislation.

2.6 Permits - equivalent conditions (Article 9 of the WEEE Directive)

While it is important to push for harmonised standards between Member States, it is essential that the re-use and treatment of all WEEE arising in the EU be subjected to the same criteria regardless of where it is prepared for re-use and/or treated and also including the operations taking place outside of the EU where WEEE is to be exported.

As such, taking inspiration from Article 58 of the proposed Batteries Regulation, a WEEE Regulation should put forth that waste exports will only count towards the fulfillment of producer obligations if the exporter/waste holder can prove that WEEE has been prepared for re-use (prior to export) and is suitable for returning to the marketplace; and/or that treatment has taken place in conditions equivalent to the mandatory standards that European recyclers must conform to. This is critical to ensure a level-playing field for European recyclers, as well as to minimise the environmental impact of EU-generated waste by ensuring the quality of recycling is maintained to appropriate standards.

2.7 Shipments of WEEE (Article 10 of the WEEE Directive)

Difficulties regarding transboundary shipments for WEEE were an overarching issue area expressed in the interviews. The excessive layer of technical requirements required to be able to ship WEEE from / to different Member States presents serious challenges to the efficient and effective treatment of waste.

Recyclers reported severe and lengthy waiting periods for authorisations (e.g. a three-month plus wait for request approval in Romania), an excessive amount of bureaucratic administrative demands (e.g. requiring documents in different languages), and different interpretations of legislation between Member States.

As an example of the latter, it was noted that waste codes are not harmonised, with different rules for national and international waste and hazard descriptions. Austria for example uses 5-digit waste codes in addition to using the 6-digit European Waste Catalogue codes.

There is also a need to reconsider the current volume limit for transboundary movement of waste being exported for research and development purposes as this is currently too small (<25kg) and hinders research and technological developments from being carried out across and between Member States.

The varying Member States interpretations cause difficulties for recyclers to comply between the various countries that they move waste through, to and from, and this also impedes a level-playing and competitive field between the recyclers in the different Member States as countries where requirements are less stringent are often chosen as a destination for shipments over those where the process is more tedious and time-consuming (e.g. Sweden). This includes ineffectual requirements to allow transit countries to impose delays or unnecessary nationalistic conditions such as having waste carrier permits for each country a waste may transit through as well as the final country of destination.

A further and fundamental issue in this area relates to the lack of uptake by various Member State competent authorities of the requirements set out in Article 14 of the European Waste Shipment Regulation No 1013/2006, wherein notification requests for waste to be shipped to pre-consented facilities for waste recovery, i.e. compliant recyclers, are in theory supposed to have considerably shorter response times:

“..the competent authorities of destination which have jurisdiction over specific recovery facilities may decide to issue pre-consents to such facilities. This means that the authority of destination will not raise objections concerning shipments of certain types of waste to the facility, and as a consequence the time limit for objections by the authorities of dispatch and transit is shortened to 7 working days.” 1013/2006 EC Art.14

Regardless of the above, in practice this is rarely applied by Member States, with only 4 of 26 recyclers reporting having pre-consented facilities and the majority lacking knowledge of the availability of this option or not having access to it within their national context due to insufficient uptake by authorities (e.g. cases of Spain and Germany).

Overall notifications are tedious, bureaucratic, non-electronic, unharmonized and a significant obstruction to proper processing with Transboundary Shipment Regulation thus hampering the movement of waste flows.

There is a need for a European rather than just a national view that aims to facilitate the recovery and uptake of secondary resources at a regional level by allowing for faster and easier procedures for compliant recyclers.

Current practice shows that some fractions are impossible to be moved between Member States. Furthermore, the administrative costs for notifications charged by some Competent Authorities are prohibitively high and not proportional to the costs or work involved. In some Member States it is current practice that the administrative costs are linked to the volumes or number of movements shipped, in which case this effectively becomes a tax on moving WEEE or fractions of WEEE.

Lastly, a further obstacle to the Circular Economy is the requirement for the financial guarantees to be put into place against each notification. Procuring these takes a considerable amount of time and resources and ensure that a considerable amount of capital that is immobilised. The risk of repatriation and the requirement to return wastes to the point of origination is not proportional to the costs of moving wastes to alternative facilities.

2.8 Recovery targets (Article 11 of the WEEE Directive)

Several issues were expressed regarding the current recycling and recovery targets. Firstly, recycling and recovery targets are overly focused on weight-based metrics, instead it is recommended that targets should focus more on quality rather than solely quantity.

Quality-focused targets may include, for instance, focusing on the recovery of key CRMs and of toxic / hazardous materials to provide for a better achievement of environmental benefits. Furthermore, to ensure that targets provide a holistic view on a product's environmental footprint, more emphasis should be placed on other targets within the waste hierarchy beyond solely recycling i.e. re-use / repair, with recycling and re-use rates being assessed in unison when determining the overall performance of producers and/or producer collective schemes.

Additionally, common challenges relate to the recycling of plastics stemming from the unavailability of suitable technologies for the required processing, as well as from the wide variety of the types of plastics used and lack of specific information enabling their identification. Recyclers expressed sentiments that the value of materials in WEEE is continuously decreasing due to lessening use of metals and growing usage of lower cost materials such as plastics in products.

This affects the output routes for recycled materials and thus the economic viability of recycling, and so presenting significant risks for recyclers.

In several countries competition amongst recyclers for the initial acquisition of WEEE from producers and/or producer collective schemes drives costs up for recyclers despite the fact that the actual value of the material is decreasing, further aggravating the economic profitability of operations.

These challenges, as discussed previously, can be addressed by creating EU market demand for new products that include recycled materials in their manufacture, with recycled content targets, as well as with limitations on the use of low-cost, low-quality, and reduced recyclability of materials at the end-of-life.

Parallel to lack of routes for recycled materials, there is a lack of demand for energy recovered through processing. Therein recyclers state that recovery rates are not truly reflective of their technical abilities and stress the need to boost demand for waste heat energy.

The growing hardship resulting from the increasingly high amount of non-recyclable materials present in products should be addressed with design for recyclability, as well as with ensuring there are targets that are more tailored to the specific product type to consider specific nuances that hinder achieving the target for certain EEE.

12. EERA is aware and content that some of these issues are being addressed by the EU's Waste Shipment Regulation review efforts, and thus further encourages for the subjects addressed here to be included.

For instance, for large domestic appliances, in the case of washing machines it is difficult to reach the recycling target given that a large percentage of its mass is a concrete weight element that cannot be recovered for example in Austria and other countries where it is not permitted to use these blocks for recycling purposes.

Lastly, legislation should avoid setting exact requirements on how to achieve targets (e.g. specific technologies to use), but rather allow more flexibility on methodologies implemented to reach targets.

2.9 Information for treatment facilities (Article 15 of the WEEE Directive)

Article 15 (1) of the WEEE Directive addresses the information that should be made available to preparing for re-use operators and treatment facilities:

...In order to facilitate the preparation for re-use and the correct and environmentally sound treatment of WEEE, including maintenance, upgrade, refurbishment and recycling, Member States shall take the necessary measures to ensure that producers provide information free of charge about preparation for re-use and treatment in respect of each type of new EEE placed for the first time on the Union market within one year after the equipment is placed on the market. This information shall identify, as far as it is needed by centres which prepare for re-use and treatment and recycling facilities in order to comply with the provisions of this Directive, the different EEE components and materials, as well as the location of dangerous substances and mixtures in EEE. It shall be made available to centres which prepare for re-use and treatment and recycling facilities by producers of EEE in the form of manuals or by means of electronic media (e.g. CD-ROM, online services).” 2012/ 19/ EU Art.15 (1)

This is barely, if at all, adhered to or made accessible by all producers.

However, recyclers acknowledge that in general, save for specialist disassembly requirements for non-household / business clients or highly complex (and more often unique) equipment, they do not need to look for each products information through online or similar resources as they carry out their own assessments through batch testing or other analysis procedures in order to consider the processing steps necessary (especially when developing new technology or operations), and to ensure annual targets and reporting requirements are met, and / or adherence to treatment standards or permit conditions.

Databases, such as the “Information for Recyclers” (I4R) could be a useful resource, but it is noted that without the details being updated the data is often no longer relevant at the point of end-of-life, as product information is reflective of the regulatory context at the time in which it was manufactured and placed on the market. Producers should consider informing and updating these databases on a regular basis or provide their own website resource, such as a good example established by an ICT producer for their products. Then, if recyclers need to check they have a clearer and more consistent route to do so.

As noted above in section 2.3, proper and clear labelling / marking would provide an easier way to identify materials / components used in the manufacture of EEE and greatly assist recyclers as many initial disassembly operations are still manual, and this would help to make those processing decisions more easily and quickly.

3. Conclusions: the way forward for WEEE Regulation

The collection and recycling of WEEE in Europe is critical as it helps retain resources, avoid unnecessary CO₂ emissions, and protects people from the potential impact of hazardous substances. Nonetheless, the current WEEE Directive, and in particular its highly variable implementation depending on each Member State, often with poor enforcement and the absence of a level-playing field, is not at present providing the ideal regulatory context for sustainable WEEE management.

It is crucial to ensure that WEEE recycling in Europe can be executed correctly to ensure minimization of environmental and health impacts of waste, as well as to facilitate the economic benefits of a truly circular economy. In addition to what was outlined in this report, previous studies carried out demonstrate that main barriers to recovery of CRMs within the EU, as identified by recyclers, are the lack of market drivers (and, therefore, lack of economic viability of CRM recycling); the lack of information on where CRMs can be found; and (in the case of some specific CRMs) the absence of recycling and recovery technology.

Regulations in this regard can play a significant role in ensuring a regulated market for CRM recovery, provided that the complete policy circle of policy making, regulation, implementation, enforcement, compliance, reporting, and evaluation is in place.

Unfortunately, this is not the case in Europe yet. The fact that on average only 50 percent of the WEEE is collected and treated in the EU, while the target from 2019 onwards, as set down in the WEEE Directive, is 65 percent, is an indication that the policy circle is not functioning optimally.

As such, EERA make the following critical recommendations that should be included within a new WEEE Regulation.

This allows for the maximisation of environmental, social, and economic benefits that a properly designed and implemented European WEEE management system can enable.

- **Harmonised requirements across Member States in the form of an EU Regulation.** Given the ever-changing policy landscape at EU and Member State level, the constantly evolving requirements recyclers must meet currently hinders unfair competition practices and discourages the stability needed for financing and maintaining existing and new recycling technologies.
 - ▶ WEEE legislation must provide recyclers with equality and regulatory certainty to work at the same level across and from / to Europe to reduce and prevent disparities and encourage investment and permanence.

13. <https://i4r-platform.eu/about/>

14. <https://tinyurl.com/yc6swmny> Recycling Resources - disassembly instructions

15. Federico Magalini & Marina Porto (Sofies), Otmar Deubzer (UNU), Norbert Zonneveld (EERA), Pascal Leroy, Lucia Herreras and Eniko Hajosi (WEEE Forum), Yifaat Baron and Viviana Lopez (Oeko), Fanny Rateau (ECOS). (2021). CEWASTE Voluntary Certification Scheme for Waste Treatment. Deliverable 4.4. Roadmap for the Long-term Sustainability of the Scheme. https://cewaste.eu/wp-content/uploads/2021/04/CEWASTE_D4.4_Roadmap-for-Long-term-Sustainability_FINAL.pdf

- **Revised WEEE categories (scope).** The definitions in the WEEE Directive, as implemented in different ways in many Member States, causes obstacles and confusion for recyclers across Europe. Interaction with producers and this knowledgeable and insightful stakeholder group in the evaluation making process at the design stage could offer great insights into the potential re-use and end-of-life processing of products.

It is also considered that the disparity highlighted between comparable legislative frameworks reduces the EU's ability to recover and retain the key CRMs and other materials needed to ensure the goals of the European Circular Economy are met.

- ▶ More emphasis should be placed on the classifications according to product content, hazards, and treatment requirements rather than size;
 - ▶ More synergies are needed between WEEE, Battery and ELV legislation with a reconfiguration of what falls under “open” within the current WEEE Directive's scope to include electrical components within vehicles and complementing requirements for batteries and accumulators.
- **Product design.** New requirements are critical for facilitating the proper re-use of components and safer and more effective recycling at end-of-life.
 - ▶ Ensure the easy removability of batteries, circuit boards and other components to ensure the environmentally safe treatment and capture of key CRMs in Europe;
 - ▶ Provide for clearer identification of certain substances, materials, and components in EEE;
 - ▶ Recycled content targets in the production of EEE should also be included to promote and address the current problematic lack of output routes for recycled materials that operators in Europe face.
 - ▶ The Eco-Design regulations should be updated and extended to include modular parts for re-use and more realistic end-of-life opportunities.
- **Collection.** Practices need to be improved in order to ensure the EU's collection targets are met and to enhance the re-use and recyclability of WEEE.
 - ▶ Producers and producer collective schemes should remain responsible for all WEEE that they put on market, not strictly just WEEE that is ‘available’ to them.
 - ▶ The collection targets should be more tailored to the category of product (e.g. PV panels) and its unique characteristics rather than a generic exception of the life-cycle.
 - ▶ WEEE management should be carried out exclusively by approved WEEE collectors and compliant recyclers that are contracted with producers and/or producer collective schemes.
 - ▶ Quality sorting practices should start at the collection point / site to reduce fire hazards and other dangers arising from presence of hazardous substances such as lithium-containing WEEE.
 - ▶ Positive marketing activities should be mandatory in each Member State to harmonise producer financing using the EPR visible fee for the promotion of good practice and enhanced awareness amongst consumers.
 - ▶ Attainment to a mandatory collection standard such as the CENELEC EN 50625-part 4 collections and logistics specification, to improve the quality of WEEE being received at compliant preparing for re-use operators and recyclers should be enforced for all WEEE collection and logistics stakeholders in order to reduce damage to the equipment.

- ▶ The costs of materials and components that are scavenged must be a consideration when determining payments paid by recyclers to WEEE holders.
- **Proper treatment.** The current situation regarding a myriad of treatment options allows for an unlevel playing field to the detriment of compliant recyclers' operations, as well as to the environment given the low-quality recycling conducted by recyclers operating outside of consistent standards. Action is needed to ensure environmental benefits are acquired from a quality WEEE management system and so compliant operators are not at a disadvantage.
 - ▶ Mandatory re-use, treatment, and collection standards (based on the CENELEC EN 50625 and EN 50614 standards) should be introduced in order to foster a level-playing field both within and between Member States,
 - ▶ Different interpretation by individual Member States should not be permitted to determine where in the treatment chain components and hazardous substances must be removed.
 - ▶ Producers and producer collective schemes should only be allowed to contract with compliant recyclers and operators who can show evidence of meeting the mandatory re-use, treatment and / or collection standards.
 - ▶ Harmonized training must be put into place for auditors and / or inspectors in all Member States to ensure clarity and equivalence in understanding, knowledge, and enforcement, especially for those checking WEEE operations and material routes.
 - ▶ Enforcement must be strengthened across Europe against rogue actors (e.g. scavengers) and operators acting outside of legal requirements. The instillment in all Member States of a coordination body with enforcement capabilities and of an independent, neutral register to oversee reporting figures should be implemented as a way to ameliorate the current situation.
 - ▶ Communication channels in Member States between the different parties in the WEEE sector (e.g. recyclers, producers, collective schemes, municipalities, and regulators etc.) should be put into place in order to promote good working practices and shared knowledge.
 - **Shipments of WEEE.** The excessive layer of technical requirements required to be able to ship WEEE from / to different Member States presents serious challenges to the efficient and effective treatment of waste.
 - ▶ There must be a reduction of bureaucratic requirements around transboundary shipments from and to compliant recyclers in different Member States, and especially the harmonization of waste codes and rules for national and international wastes;
 - ▶ Uptake by national Competent Authorities of a fast-track notifications system for pre-consented facilities. Moreover, once this can be effectively implemented in Europe, then fast track notifications can potentially be rolled out on a global level to facilitate these movements and ensure critical raw materials (CRM) recovery for the EU.
 - ▶ Removal of state transport waste carrier permit requirements for transit countries as this adds red tape for no apparent reason, other than nationalism and / or raising costs. Furthermore, the creation of a European register for companies that transport WEEE all over Europe could possibly help simplify procedures and speed up the process.

- ▶ Removal of the requirement to wait for transit Competent Authorities to raise objections or give tacit approval as this only delays the whole application process and bears little if any risk should this element be removed.
 - ▶ Clear obligations should be imposed on Competent Authorities within the EU to ensure the fast-track approval of notifications for pre-consented facilities;
 - ▶ Equivalent treatment standards within Europe and also for non-EU exports should be evidenced and enforced by transboundary authorities to foster a level-playing field and competitive conditions.
 - ▶ Enlargement of the current volume limit for transboundary movement of waste of 25kg for research and development purposes when being exported between Member States.
- **Recovery targets.** The objectives of Article 11 of the current WEEE Directive must focus more on the quality of the materials recycled / recovered rather than solely quantity-based targets.
 - ▶ Targets should be more tailored to specific product types and should grant flexibility around the methodologies implemented to reach and promote greater recovery of key CRMs and a higher capture and removal of toxic and hazardous substances and fractions.
 - ▶ More emphasis should be placed on other targets within the waste hierarchy beyond solely material recovery, with recycling and re-use rates being assessed in unison.
 - ▶ The challenges surrounding the decreasing quality of materials should be addressed by creating EU market demand for products that include targeted volumes of recycled materials to be used in the manufacturing of EEE and concurrently reduce the ability or producers to include poor or non-recyclable parts.
 - ▶ Energy recovery options for WEEE fractions that cannot be recovered should be improved to increase demands for waste to heat energy.
 - **Information for recyclers.** Whilst it is recognised that the Directive places obligations on producers to provide information to operators, recyclers in general consider this to be of little added value at the point of treatment other than for specialist activities.
 - ▶ Producers should consider informing and updating European databases on a regular basis or provide their own website resource to enable recyclers to check if they need to – particularly when working directly with producer clients assessing the life-cycle of their products.
 - ▶ Producer collective schemes could provide a simple to access option on their websites for their members to establish clear points of contact.
 - ▶ As technology is a changing and challenging arena in terms of the design of new EEE, recyclers remain available to producers to work collaboratively so that their knowledge and experience of the end-of-life operations are better understood.

EERA strongly believe that above recommendations, to be implemented in the same way across Europe through a Regulation, will improve the sustainability and development of the European recycling sector and the movement and use of quality materials within Europe, thus helping to achieve the EU Circular Economy objectives.

EERA urges the European Commission to take these points into serious consideration when revising the current WEEE Directive and complementing legislation and drafting the new legislation and remain open to on-going collaboration.

16. <https://www.eera-recyclers.com/files/background-document-nsrr-fast-track-notification-project-status-november-2019.pdf>



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