THE CHALLENGES OF WEEE RECYCLING IN EUROPE

24th June 2024 ,
WEEE Management 2023
Italian results and a look at Europe

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EERA is ***the voice*** of Waste Electrical and Electronic Equipment (WEEE) recovery facilities in Europe, being ***the professional association*** for the WEEE re-use, recycling and re-processing industry

Our vision is for a resource efficient economy where WEEE (whole equipment and materials derived from WEEE treatment operations) is managed as a valuable resource and which is returned into the European market as equipment prepared for re-use or as secondary materials.

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.

EERA strongly believes that a single market and the harmonisation of regulations for waste within the European Union, with stakeholders along the value chain cooperating, better collection processes, high quality recycling, an

appropriate regulatory framework, the eradication of illegal practices, and product design integrating a life-cycle approach is essential in attaining a level playing field for fair competition in the WEEE value chain, encouraging innovation and long-term stability and economic growth, as well as to support the European Commission's Green Deal objectives.


The WEEE Directive
What do Recyclers say?
Other legislative factors?
What is missing?
24th June 2024 – WEEE Management 2023 – Italian results and a look at Europe

The European WEEE Directive was established with several key aims centred around the environmental protection and sustainable management of electronic waste. The Directive, first introduced in 2003 and subsequently revised in 2012. It aimed to address the ever-increasing electronic waste generated by European consumers and businesses.

The Directive set out to encourage recycling, re-use, and the recovery of valuable materials found within electronic products, which also often contains hazardous substances such as POPs, lead, mercury, and cadmium, which can be harmful to the environment and human health.

The WEEE Directive sets strict guidelines for the handling and treatment of such waste to prevent contamination and environmental degradation.

The target market for the Directive is firstly aimed at producers placing products on to the European marketplace, who must meet obligations regarding reporting sales totals, as well as contribute to the collection and end-of-life costs at treatment and recycling plants.. Re-use and recycling e-waste operators also have to meet rules regarding the removal of hazardous components (e.g. CRTs) and substances (e.g. mercury in lamps) and export procedures (e.g. to confirm the ability of equipment prepared for re-use).

The consultation exercise carried out in 2023 reported that improvements had been significant in promoting sustainable practices within the electronics industry and reducing the environmental footprint of electronic waste. It has led to increased recycling rates, better waste management infrastructure, and heightened awareness among consumers and producers about the importance of responsible disposal of electronic goods.

Other stakeholders of course include Member States who had to implement the requirements into their own National Legislation – however this has led to 27 diverse versions, many with quite different requirements, and some with very lenient responsibilities and others who have made mandatory treatment requirements their aim. This led to an unfair and non-harmonious approach. For example, the WEEE Directive has six categories, in Greece however producer schemes require recyclers to report on 63 categories, with no recognition or compensation for the time, personnel and cost this burden puts on the operators.

Despite its successes, the WEEE Directive faces ongoing challenges as the different interpretations in the transposition by Member States led to an unlevel playing field, poor depollution and treatment activities at many facilities, and illegal shipments. Illegal exports of electronic waste to developing countries, most often cause improper disposal with severe environmental and health issues.

The European Commission announced a review of the Directive, and the next phase will be to issue an impact assessment on any changes they propose to make. This is indicated to be in the latter part of this year if things go to track. Any amendments though, or indeed a change to a Regulation, will not be seen until 2027 allowing time for Member States and other actors to comply.

- Of chief importance for EERA is the statement in paragraph six of the preface to WEEE Directive **II** (the '*Directive'*):

"The purpose of this Directive is to contribute to sustainable production and consumption by, as a first priority, the prevention of WEEE and, in addition, by the re-use, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste and to contribute to the efficient use of resources and the retrieval of valuable secondary raw materials. It also seeks to improve the environmental performance of all operators involved in the life cycle of EEE, e.g. producers, distributors, and consumers and, ***in particular, those operators directly involved in the collection and treatment of WEEE****. …."*

- Collection streams made the separation of WEEE clearer, that encouraged a better participation. This could be further improved as long as space and location are better considered as these are the leading factors when good collection systems are set up.
- Consumers will most often take the easiest and quickest route when considering the disposal of their WEEE – and if a collection site is too far away or they find confusing or conflicting information at a site, then they are likely to just select the standard waste collection / general waste containers.
- Each EU citizen has an equal right to have their WEEE collected and treated correctly and free-of-charge. The lack of compliant collection points, especially in rural areas where collection costs are likely to be higher, means that an unequal

situation is in place. Equally, the same rights affords them to also expect professional and compliant treatment operations

- Having one framework for all EU Member States has created better awareness and participation by producers, but much more needs to be done to educate consumers from households and businesses.
- Greater attention has been given to the identification of hazardous components and substances, and the better containment of such fractions during disassembly and recycling and secondary raw material recovery activities..
- The proper implementation of compliant and professional treatment operations by re-use and recycling operators is seen as an extremely positive aspect of the Directive
- The lack of enforcement on the collection and export of untreated whole WEEE and so-called “second-hand goods” out of the EU means that there is little expectation for all WEEE meeting compliant environmental and health and safety operations.
- Only 45% of collected WEEE is received at professional / compliant EU operators. This means that over 5 million tonnes are ‘missing’ today.
- In those Member States where certification to EN 50624 / 50614 is mandatory, there is almost an equal playing field for all stakeholders. The implementation costs are however high as producers often do not consider that they should contribute to the investment in the innovative technology required, administration and compliance with BAT or to auditing time and fees.
- A key achievement of the Directive has been the significant improvement in recycling techniques for the treatment of cooling and freezing appliances. Better attention needs to be given for non-household appliances as commercial equipment is not uniformly treated via the correct / same route.
- The lack of enforcement, and low fines issued to illegal operators relating to the leakage and exports of WEEE means that professional operators who have invested in time and money to providing producer schemes with compliant solutions, face daily pressures to reduce costs, cut corners and meet higher reporting burdens.

- Higher and higher requirements like POP limits and CRM recovery targets are not in line with current technical solutions and scientific analysis methods. Investing in technology that works today and improves tomorrow has high risks as there are no long-term sustainable economic business plans available to recyclers.

- The lack of uniform understanding of what BAT means across Europe has led to this EU initiative being disregarded by the majority of national authorities. For those operators who own/operator facilities in more than one Member State, this also means inconsistencies in administration, reporting and recycling experiences.

- As Member States have implemented the Directive in different ways, BAT is not measurable in terms of bench marking, nor relevant to WEEE recycling as there are many different technologies in the EU, and new emerging activities in the pipeline, which may not yet meet current BAT techniques, or the criteria set down in the CENELEC Standards (especially separation and annual mass balance requirements)

- The CENELEC Standards and the certification system have problems in a number of specific areas, especially the increased burden on operators for monitoring and reporting. Often the quality of audits is questionable with some audits performed at different levels, and inexperienced auditors. Competition between certification bodies is practically non-existent

- The Directive and associated EPR legislation requires that the 'polluter pays' thus producers should be made to cover all auditing costs as a matter of course, especially as they will undoubtedly want to work with professional operators to meet their environmental, social and governance obligations.

- It is hoped that the new **Waste Shipment Regulation** will offer improvements – but the changes are still two years away – including:

    - The **digital tracking system** for all notifications from November 2027.

    - The new **BASEL E-Waste Codes** will be in force on 1st January 2025 the implementation must be enforced with vigor in Europe. Whole untreated WEEE should not be permitted to be exported to a third-country to prevent a loss in Europe of CRMs, and often lower (if any) treatment and environmental and human health controls.

    - **The cost of compliant transfrontier shipment consignments of WEEE** from one Member State to another is a direct cost to WEEE operators. These charges are not consistent in every Member State, with some (e.g., Poland) requiring the same fee for a destination treatment pre-informed consent application as they do where there is only a transit requirement. These often-opaque costs along with the cost of the provision of a financial guarantee (that could be better used for innovation and investment), prescriptive obligations on the type of transport or container that must be used, the name of the driver, and expensive laboratory analysis of the waste, along with the administration and personnel time have to be considered as part of on-costs by a WEEE operator. It is no surprise therefore that some poor quality WEEE operators choose to export illegally across intra-EU borders as the chance of getting stopped and fined are very remote.

    - **The high cost of providing financial guarantees** for single transfrontier shipment approvals that has little, if any, reflection on actual environmental risk (especially to sites that hold pre-consented status) means that operators have value capital tied up in insurance or financial bonds or in ring-fenced company funds. EERA Member data shows that some operators have over €1 million of capital set aside for these provisions.

    - The lack of **enforcement of poor quality WEEE operators** impacts professional, compliant operators, who must compete against them. There are always higher costs associated with compliant operations, and the reality of the unlevel playing field highlights the impact of direct or indirect cost of compliance for those treating WEEE to a high standard of resource recovery. The higher the likelihood of costs and charges the more likely the scenario will be of bad actors (operators and producers/schemes) seeking to circumnavigate the system.

- The **Persistent Organic Pollutant Regulation** – a new WEEE Regulation should have correlations to requirements for solid/technical plastics derived from WEEE to both encourage investment and innovation in new technologies to identify, separate and remove/discard plastics containing POPs, and to recover more good quality, compliant single polymer plastic for material re-use.

- **Waste Framework Directive** – this requires updating to recognise the nature of WEEE has changed, and especially the designation of what is deemed to be hazardous and what is not hazardous following selective treatments or has no hazardous elements at all. There are changes already in progress to make all battery chemistries hazardous, thus requiring full PICs applications prior to shipment. This is likely to be in force in one year.

- The **Restriction of Hazardous Substances Directive –** Initially this was written to complement the original WEEE Directive but is now out-of-step with the material content in new EEE and the ever-increasing list of banned substances that are largely found in very old, very rare WEEE. The whole WEEE industry should not be responsible for historic pollutive substances without proper contributions from those producers who put them into their EEE in the first place. RoHS should be incorporated into the REACH Regulation. This will also benefit producers as well as final end-destination reprocessors.

- **Eco-Design for Sustainable Products Regulation**. It is vital that there is a link between this regulation and a WEEE Regulation, with the obligations placed on producers to first consider if a product is recyclable at its end-of-life, and for them to demonstrate the evidence of this. If evidence is not made available a product should not be permitted to be placed on the EU market. Professional recyclers encourage communication with designers / producers and are a good resource of knowledge of what is possible, or what can be possible in the life-span of a product where innovation and new investments are built in partnership. This regulation should also include the identification and location of CRMs over a certain weight threshold (e.g. in a digital product passport). Low volume, very rare CRMs are currently not viable for identification at the end-of-life, but this can be assessed and reviewed over time.

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- Today recyclers are required to have good practices in place to identify, separate and treat/disposal of hazardous components and substances. **It is forgotten that they did not put these elements into the design of EEE, but it seems to have become their**

sole responsibility to protect the environment at end-of-life.

- The links between the requirements in the EcoDesign Directive are not clear but are becoming stronger under the new Regulation. However, there should be more emphasis on incorporating good ESG practices to better serve the circular economy requirements.

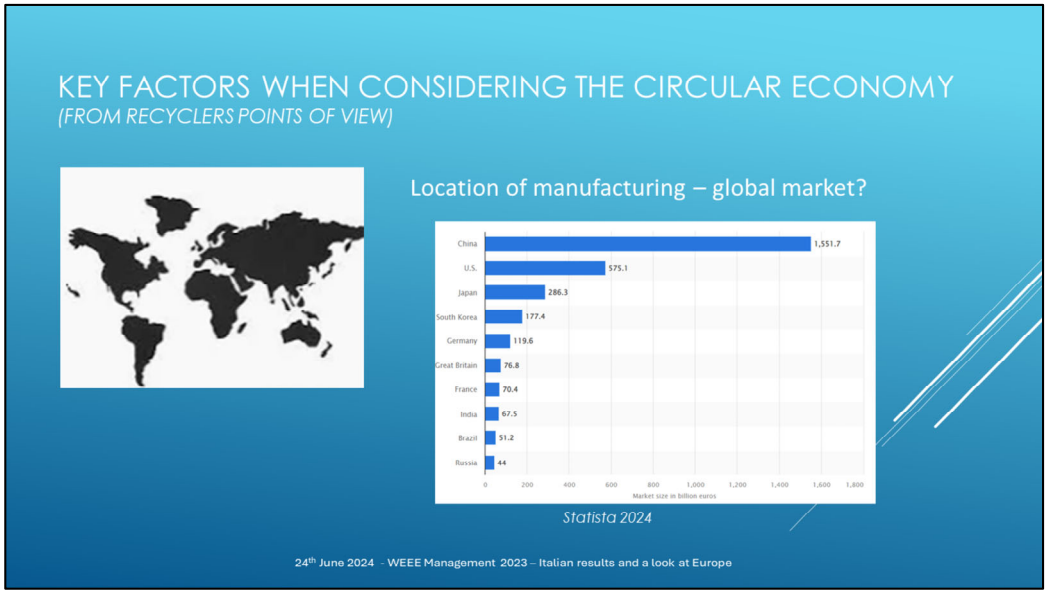
- There should be more **eco-modulation targets / fees** to ensure that hazardous components and substances are reduced.

- **Critical Raw Materials Act** – a WEEE Regulation can incorporate CRM targets for strategic elements but there must be security for operators to consider innovating and investing in technology given that planning permission and environmental permitting can take two to three years, and then design and installation and R&D work before increased capacity can be assured. If a CRM is included there must be at least seven years in a pipeline to justify capital expenditure financial planning.

- **Extended Producer Responsibility** – produces of all EEE must be included in a WEEE Regulation in order to ensure that all possible WEEE arising (100%) is directed to legitimate re-use and treatment routes. The nature of the EEE is irrespective, be it designed for household or non-household use.

- **Taxonomy Regulations**. The requirements for good environmental, social and governance controls **(ESG)** are core to a WEEE Regulation and must be prioritized by producers/schemes/business operators over lower less stringent routes and costs to the environment and human health.

What is missing?

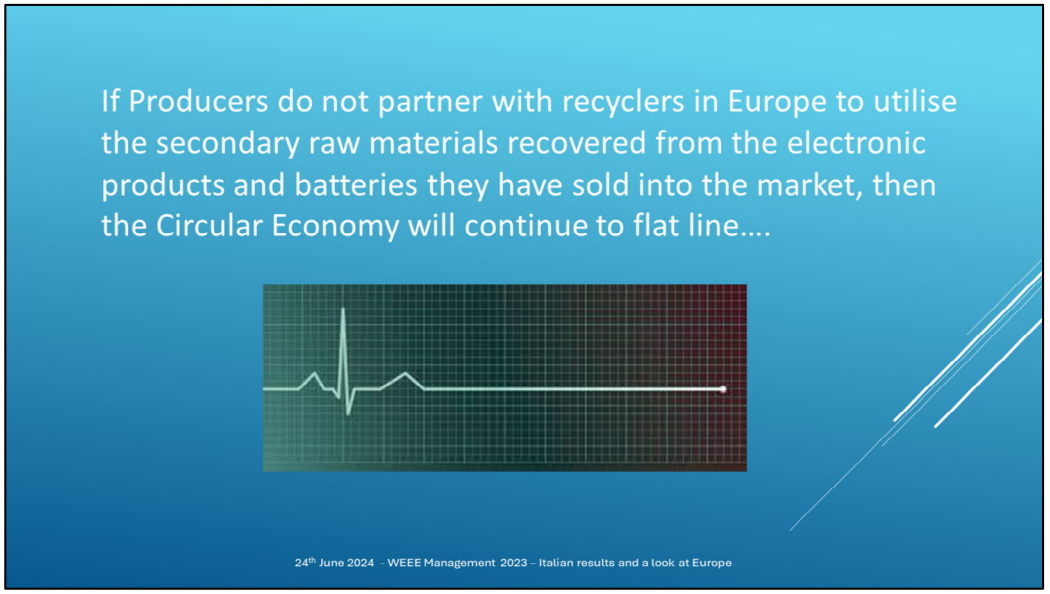


Primary materials are usually seen as a higher quality, especially for metals like copper and steel. The Directive has somewhat improved the re-use of other metals for material recovery, but this is more often an afterthought by producers of EEE rather than using **secondary raw materials** as the first point of resource.

- A mandatory requirement for recycled content in the production of EEE will significantly lead to efficiencies in the availability and accessible volumes of good quality secondary raw materials.
- This will help to improve the secondary raw material marketplace and will encourage new and existing operators to innovate and invest in the industry.
- Until then producers will most likely consider primary resources first due to lower costs / ease of access. This is bad for the environment and CO2 emissions, the circular economy, EU CRM reserves and global supply chains.

- There are no requirements in the current Directive to establish new technologies to recover CRMs in Europe.
- Emphasis should be on the recovery of all **good quality secondary raw materials** that have low contamination and create high demand by producers looking for alternatives to virgin materials.
- **Recyclers are willing to innovate and invest in new technologies but have little incentive to do so** as there is no security of the supply of incoming WEEE as producers/producer schemes look for the lowest cost rather than the highest environmental, social and governance solutions.

- The market price for **secondary raw materials** fluctuates enormously
- This leads to greater risks by operators who must bear the R&D and investment time and costs.
- This must be addressed if the secondary raw material market is to improve and to make a **positive contribution to the circular economy.**



- Whilst it is recognised that today there are not sufficient volumes of secondary raw materials available, the growing volume of EEE being placed on the market, and with better WEEE collection and recycling opportunities, secondary raw materials should be made the first resource by producers, and when these are not available, only then should virgin raw materials be considered. Without this obligation **the circular economy will continue to flat-line**.

- **All** WEEE should be handed over only to professional and compliant certified re-use and treatment operators with **all** producers made responsible for the collection and re-use / treatment costs regardless of the commercial / non-household nature. This lack of foresight in the Directive has impacted the direct costs of recyclers as producers of commercial / non-household EEE have not made an equal contribution to the end-of-life systems in Europe, with much equipment being outside of the reporting and good recycling practices. Often professional / compliant recyclers receive this equipment but have no client or route to recover the costs – e.g. cost of recovery of refrigerants and blowing agents, cost of the removal and disposal of hazardous substances or components etc.

- Waste management companies responsible for collecting WEEE **from business routes** often do not believe it is their financial responsibility or have arrangements with their own clients to cover compliant WEEE treatment.

- This is another example of a direct cost that falls on legitimate WEEE operators or forces the WEEE down a non-compliant route (e.g. general shredding).

THANK YOU FOR YOUR ATTENTION

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