



## The challenge of transposing WEEE II into national law

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# I. Introduction

Recognising the extensive environmental and economic benefits of recycling, the European Union (EU) has taken a direct approach to improve the situation across all member states over the past 15 years, setting out a number of policies to help increase recycling levels and divert waste away from landfill.

One of the key areas the EU set out to address was the disposal of waste electrical and electronic equipment (WEEE). As our markets have matured, and innovation cycles for this type of products have become shorter, the rate at which we dispose of them has naturally increased. In disposing of these materials to landfill, we are not only harming the environment, but also throwing away rare earths and precious metals with a damaging effect on our economy. Therefore, in 2003 the EU introduced Directive 2002/96/EC on WEEE, the aim of which was to avoid the creation of WEEE where possible, but where WEEE was unavoidable, to increase collection and the responsible treatment and processing of old electrical and electronic goods.

Although the original Directive made great strides in creating a structure in which WEEE could be captured in an official system and recycled responsibly, in reality, only 30-40 per cent of the estimated total WEEE disposed of is actually captured through these official channels today and properly reported and accounted for. The rest is unaccounted for.

Therefore, it is clear that we still have some way to go in refining the system to ensure it is as effective as possible. With this in mind, the past years have seen the original Directive undergo a recast process, whereby the EU has updated the regulations in order to optimise the extent to which WEEE is captured, re-used, recycled and processed, by maximising proper registration and reporting in the system. The effective implementation of the new Directive is supposed to sustainably develop the specific areas of employment, environment and economy (the '3 EEs') in Europe.

Ten years on from the adoption of the original WEEE legislation in 2002, WEEE II is now agreed. The critical next phase is the transposition of WEEE II into national law – the revised Directive tells us what must be achieved, while the transposition is the “how we achieve it”. This paper will take a look at some key challenges we are currently facing in Europe, and the critical elements we must consider if the Directive is to be realised.

There is a huge disparity across Europe, not only in terms of collection and awareness, but also in the current WEEE systems in place. As we enter this next phase of the European WEEE story, there is a lot that we can learn from each other and knowledge that we can share to ensure we are optimising the original aim of the Directive.

We therefore aim to consider a series of key elements in turn, summarising the most critical issues and providing examples of best practice where appropriate.

## II. WEEE arising

Traditionally, WEEE has been a complex waste stream to understand. There are many actors involved, and the channels through which WEEE is collected are very diverse. So, it is difficult to determine how much WEEE actually arises, especially the quantities of WEEE that are captured but not recorded, and also the tonnages that are not separately collected at all by any actor and disappear in the municipal waste stream. In other words, we know how much is collected and treated on a national level by the recognised (producer) compliance schemes, but we have little evidence about the non-reported quantities, i.e. WEEE collected by the other actors outside the official system, for example small door-to-door trade, second hand shops, WEEE in residual waste from households or businesses and/or exported (illegally) out of sight.

***We need to understand more about how much, where and what type of WEEE is arising (or generated) in order to maximise collection.***

*In March 2012, the Dutch producer compliance schemes organised an international event on WEEE: 'The Future Flows' (see [www.wecycle.nl/futureflows](http://www.wecycle.nl/futureflows)). Insights were presented about the quantities of electrical and electronic equipment marketed and of WEEE, their 'complementary' flows – formerly known as 'leakages' – their lifetimes, discarding and re-use behaviour and imports and exports for re-use and recycling. A study was also commissioned to estimate the 'WEEE arising' on the basis of a model developed by the United Nations University, which establishes a connection between the sales and possession of a product and when it is discarded at the end of its useful life. In addition, the model establishes a connection between the discretionary income of a country's population and the expected volume of discarded electrical equipment in that market. The study does reiterate, however, that there are many other sources of data that can also be used to further fine-tune the model.*

*WEEE TRACE, a cooperative project co-funded by the European Executive Agency for Competitiveness and Innovation (EACI), aims to ensure 'cradle-to-grave' traceability of complete WEEE flows by means of the use of advanced information and communication technologies (see [www.weee-trace.eu](http://www.weee-trace.eu)). WEEE is itemised with RFID to ensure traceability, identification of WEEE flows, illegal exports and information for recyclers on recyclability. The data can possibly be linked to a WEEE register. The six project partners represent the whole life cycle of electrical and electronic appliances from design and manufacturing to the final collection and recycling of these appliances at the end of their useful lives. Two producer compliance schemes from Spain and the Czech Republic take part in the project.*

### III. Handover of WEEE

It is estimated that around 30-40 per cent of WEEE is currently recorded in the official systems in Europe. That is not to say 60-70 per cent is not collected, but that, on the one hand, there are still many unofficial channels collecting WEEE which are not recorded in the official system and, on the other hand, some WEEE is still not separately collected. With the new targets in place, it will be important that producers are only responsible for the tonnages they have access to, and nothing more. All producers agree that they are willing to be 100 per cent responsible for the WEEE they have access to.

***Essentially, there are two options: Count WEEE from all actors in the system, or ensure all WEEE is dealt with by approved producer compliance schemes.***

Many producers are keen to see the first of these approaches enforced (see VII), but in some member states it is possible that the latter approach can also be successful. For example, in smaller compliance markets, with only one or a few producer compliance schemes in operation and also a good understanding with authorities, for example Ireland, Belgium, Sweden or the Netherlands, mandatory giveback may be the most effective way of recovering WEEE within the official channels.

Article 5(4) in WEEE II:

*“Member States may require that the WEEE deposited at collection facilities referred to in paragraphs 2 and 3 is handed over to producers or third parties acting on their behalf or is handed over, for purposes of preparing for re-use, to designated establishments or undertakings.”*

### IV. Consumers returning WEEE

Having discussed the above (see III), it is important to recognise that there is still room for improvement in influencing consumer habits when it comes to disposing of WEEE. There is huge discrepancy in the level of understanding of consumers across all member states as to the importance of returning WEEE to collection points or have WEEE separately collected. It takes time for people to become accustomed to what they need to do.

***Ultimately, how much WEEE gets collected depends a great deal on the disposer's behaviour, whether or not he/she returns the WEEE to registered collection points and has it collected by registered parties.***

*Many member states, in co-operation with producer compliance schemes and other stakeholders, are already very active in driving consumer awareness, undertaking public campaigns to actively engage consumers and encourage them to return their end-of-life appliances responsibly. See the WEEE Forum 2011 annual report <http://www.weee-forum.org/what-is-the-weee-forum> (pages 10-11) for a selection of examples and a summary of WEEE Forum project reports.*

*For example, the Czech Republic has shown how it is possible to engage the public via its 'Feed the Scrapman' campaign, which saw a giant dinosaur made up of pieces of WEEE created over a four day period. Everyone who 'fed' the scrapman and answered a quiz question was awarded a prize. This activity was supported with educational activities, so actively educating members of the public that they should return their end-of-life appliances to collection points (see <http://www.asekol.cz/en/consumers/education-and-public-awareness/the-feed-the-scrapman-campaign.html>).*

*In Ireland, citizens proved receptive to a popular reality TV programme, involving citizen action, rather than just traditional adverts where a viewer is passive.*

*Scandinavians and Swiss are typically acutely aware of environmental issues and therefore more likely to return WEEE to collection points.*

*Lots of campaigns rolled out via schools achieve good success and engagement, such as in Portugal, Italy, Slovakia and the Netherlands.*

With respect to household collection, a proper interpretation of the Directive will be critical to its success. Article 12(1), in relation to financing in respect of WEEE from private households, states that:

*"Member States shall ensure that producers provide at least for the financing of the collection, treatment, recovery and environmentally sound disposal of WEEE from private households that has been deposited at collection facilities set up under Article 5(2)."*

Introducing parallel collection schemes would have a negative environmental impact and result in consumers having to pay twice. Responsibility for household collection does not bring any further incentive on improving design for end-of-life, one of the objectives of the Directive.

***Municipalities should remain responsible for financing household collection. Producers should continue to be responsible for WEEE once it has been handed over to the producer compliance schemes.***

## **V. Access to WEEE**

Producers are responsible for the effective treatment of WEEE, so it is essential that the producer compliance schemes have access to the WEEE collected, and can influence where it goes for treatment, how much it costs, the quality of the treatment and, ultimately, improve the auditability of the recycling chain.

With access to WEEE, producer compliance scheme can also influence what happens to the raw materials that are recovered as part of the process – this is particularly key for the recovery of rare earths, precious metals and other critical materials.

In terms of transposition of WEEE II, article 5(4) will be crucial:

*"Member States may require that the WEEE deposited at collection facilities referred to in paragraphs 2 and 3 is handed over to producers or third parties"*

*acting on their behalf or is handed over, for purposes of preparing for re-use, to designated establishments or undertakings.”*

Everyone agrees that we must capture as much WEEE as possible, but producers can only be responsible for capturing what is there. In order to improve the efficiency of WEEE captured and treated within the system, WEEE II includes the points below in addition to the current requirements:

*“Member states shall prohibit the disposal of separately collected WEEE which has not yet undergone the treatment specified in article 8.”*

This should mean that WEEE from all sources is properly treated and counted, and should help to prevent illegal exports and improve the amount counted towards the target.

*The UK currently works on a system of tradable certificates called evidence notes. Collectively, evidence notes represent the total amount of WEEE collected in any year. One of the main issues in the UK system is that there is the potential for several parties (intermediaries) to become involved in the recycling chain and where this happens, and WEEE evidence is transferred or traded, its origin becomes untraceable and the audit trail becomes longer and less clear – which means the risk of leakage and the illegal export of WEEE increases.*

*In theory, the act of trading or transfer of evidence is intended to be a year-end balancing activity, as every note must be owned by schemes in the correct proportion. However, in reality, if a producer compliance scheme has evidence that it doesn't directly need it to meet its own members' obligations, then there will be another PCS which does need it, and therefore, will be forced to buy it from them regardless of cost or origin. This practice is still widespread.*

*The risk of leakage can significantly decrease where there is a direct relationship between those collecting WEEE and a PCS that actually needs and directly finances the WEEE for its members' obligations. For example, where a retailer collects from a consumer and then passes this directly onto a designated collection facility or an approved treatment facility in agreement with a PCS, then there is significantly less opportunity for the illegal collectors of WEEE to get their hands on it. This is because the audit trail is far shorter, making it easier to know where WEEE comes from, where it goes to and who pays for its treatment.*

## **VI. Methods of allocating WEEE**

Effective national WEEE systems in Europe tend to have a (centralised) method of allocation.

*This method of allocation may be based on a single producer compliance scheme taking ownership or on an allocation system in which various schemes are participating. But essentially, a regulated system for allocation will help to balance the process in an orderly fashion.*

The balancing may be done up-front or post-collection (as happens in Ireland), but the point is that there needs to be a system in place in each member state which actively and equitably regulates the allocation of the WEEE between schemes.

*In France, OCAD3E, a clearing house of the four recognised producer compliance schemes, puts compliance schemes in contact with local authorities, guarantees collection of WEEE in any circumstances, pays out a financial compensation for separate collection and monitors the well-functioning of the WEEE system.*

*In Italy, the Centro di Coordinamento RAEE, the national WEEE coordination centre, is managed and regulated by the producer compliance schemes under the supervision of the WEEE Compliance and Control Committee. It ensures that the entire territory is served and that all schemes work with harmonised modalities. The Centro establishes how the collection facilities should be allocated among the different collective schemes, and acts as a single point of reference for the collection facilities (national call centre). Each scheme operates on the entire national territory, managing a portion of each province. See [www.cdcaee.it](http://www.cdcaee.it).*

## VII. Meeting the collection targets

Meeting the new collection targets must remain the obligation of national waste authorities.

***Producers have no control over the waste that they do not have access to and have no enforcement powers, so it is unrealistic to make them responsible for meeting these targets.***

At present only producers, or third parties acting on behalf of producers, need to fulfil the requirements. All actors that voluntarily decide to handle waste either for business reasons or refurbishment should also be registered. Recyclers, waste collectors, local authorities and traders also deal with WEEE in practice and need to be subject to the same legal obligations for the reporting and treatment of WEEE. The register should not only be the register of producers and other WEEE actors but also of waste.

***It will be critical to ensure that anyone who handles WEEE properly reports it – including the type and quantity of WEEE that they handle. All actors who handle WEEE should be subject to all relevant obligations of the Directive.***

Key points in relation to the new target in WEEE II include:

*“[...] from 4 years after the year of entry into force of the directive (so from 2016), the minimum collection rate shall be 45% calculated on the basis of the total weight of WEEE collected...expressed as a percentage of the average weight of EEE placed on the market in the three preceding years in that member state.”*

*“Member states shall ensure that the volume of WEEE collected evolves gradually during the period from 4 years after entry into force (2016) to 7 years after entry into force (2019) unless the final collection rate (65% EEE or 85% WEEE generated) is already achieved.”*

*“7 years after entry into force of this directive the minimum collection rate to be achieved annually shall be 65% of EEE placed on the market in the three preceding years or alternatively 85% of WEEE generated on its territory.”*

And importantly, from now until January 1st 2016:

*“[...] a rate of separate collection of at least 4 kilograms per inhabitant per year of WEEE from private households is collected or the same amount of average weight of WEEE that was collected in that member state in the three preceding years, whichever is greater.”*

This latter target, based on WEEE arising (see II), better reflects the individual nature of WEEE generated in each member state and is favoured by many stakeholders.

*In August 2012, France passed a law that all payments for scrap metal should be cashless and that any payment must be made by bank transfer. Previously, 80 per cent of payments for metals in France were made in cash.*

*In Britain, changes to the law have made cash sales for metal scrap illegal. About 15,000 tonnes of metal are stolen every year – as much as half from scrap metal dealers – though the industry and commercial victims agree the figure is an underestimate.*

*WEEE II lays down new and challenging collection targets. To assist the producer responsibility organisations of the WEEE Forum achieve these collection targets, a WEEE Forum project, presented early 2012, identified good practices in collection in terms of strategies, tools and methods, and special events. As regards events, measuring the cost-effectiveness in relation to the collection rates has not been attempted by any compliance scheme – too many other factors contribute to the collection rate increase. Mobile collection and school programmes, and programmes that combine a message and a type of collection, show increase in the collection rates over time.*

*The producer compliance scheme in Poland put in place an effective lamps collection scheme.*

## VIII. Enforcing the rules

All sorts of parties dodge the system. There are free-riders among producers – those that fail to register with the official system – and among operators that have not registered. As part of the transposition into national law, it will be crucial to set strict and clear enforcement measures, with penalties adhered to by the enforcing bodies.

***It is the authorities' responsibility to survey the market and ensure that justice is served on any free-riders in the system.***

*“In Ireland, several companies were prosecuted for falling foul of Irish law. One major retailer pleaded guilty to charges brought by the Environmental Protection Agency in relation to offences under the WEEE regulation. The company was fined €1,500 and ordered to pay a further €10,000 to the EPA in costs for failure to state the correct producer recycling fund contribution in a*



*brochure and for failing to maintain a statutory notice in-store alerting customers to the fact that price include such a contribution to ensure that WEEE is collected and recycled in a responsible manner. To date, the Irish EPA has taken ten prosecutions under the WEEE Regulations for failure to comply with producer or retailer obligations with over €100,000 in fines and/or costs awarded against these companies in total as a result (see <http://www.epa.ie/downloads/pubs/waste/weee/Enforcement%20update%20note%20November%202011.pdf>).*

Enforcement is the ultimate responsibility of the authorities. However in some countries, producer compliance schemes help authorities in identifying free-riders.

*The main compliance scheme in Belgium has personnel engaged in travelling around the territory and identifying appliances placed on the market by free-riders.*

## **IX. Qualified ban on exports**

Ensuring that the treatment of WEEE is properly reported in the official channels will mean that less is allowed to escape to illegal export.

***Any party that wishes to ship used equipment abroad should be in a position to provide evidence that the equipment is functioning and can be re-used.***

*The WEEE Forum is currently a partner in a consortium which will analyse WEEE data and current crime patterns. This will aim to bring together data currently in existence – including everything that is legally collected, and everything outside of that, to identify gaps and patterns in illegal export. This project, dubbed CWIT (Countering WEEE Illegal Trading), is due to start in January 2013.*

## **X. Responsible re-use**

Producers recognise that there is an environmental benefit of re-use, but this needs to be quantified and regulated. For example, the credibility for refurbished products can be improved by requiring re-use organisations to be qualified. Qualification may hinge on standards concerning how the equipment should be refurbished by the re-use organisation and the identification on products (marking) of who has refurbished.

The WEEE regulations should allow access for qualified re-use organisation to collection points to pick any waste product for their refurbishment activity. Any material that cannot be used by the re-use organisation needs to be handed back to the same collection point.

*Any refurbishment of WEEE – the so-called ‘preparation for re-use’ – into new appliances should be performed by accredited re-use centres and should be subject to regulations concerning the use of certain hazardous substances (RoHS), safety and eco-design in force when the refurbishment is performed. And any requirements should meet certain conditions, e.g. enforceability, relevance and competitive proofing.*

*In France, preparation for re-use plays an important role and there is a strong social focus on these activities. The producer compliance schemes work closely with the municipalities and the re-use organisations to facilitate the re-use of appliances which are deposited at municipal sites.*

## **XI. Responsible processing**

Under the new Directive, standards for collection, transport and treatment will be developed. This will level the playing field among recyclers and define quality requirements for operators.

*In the past four years, the WEEE Forum has co-ordinated a major project, WEEELABEX, co-financed by the EU's LIFE programme, aiming at laying down a set of European standards with respect to the collection, sorting, storage, transportation, preparation for re-use, processing and disposal of all kinds of WEEE. The world's first coherent, comprehensive and continental set of standards, approved by the WEEE Forum in April 2011, covers all 10 WEEE categories and directly affects all parties involved in the WEEE chain of operations. WEEELABEX will change the WEEE landscape substantially and for good. See [www.weee-forum.org/weeelabexproject](http://www.weee-forum.org/weeelabexproject).*

## **XII. Responsible financing**

Some member states will push for mandatory visible fees, while others will not see it as a priority – it very much depends on the individual systems currently existing in each member state. We have seen the visible fee model works very well in some countries.

Visible fees allow for transparency – everyone can scrutinise compliance schemes' reports to see how the money is spent. They are cost-effective, because no profit margins are added to the bill, and do not disrupt competitive market conditions. Studies have shown that consumers accept the visible fee.

*It should be legally possible to make costs of WEEE management transparent.*

*The producer responsibility organisations in Ireland, France, Belgium and the Netherlands, amongst others, have successfully implemented visible fee schemes.*

### XIII. Resource efficiency

In an ideal world, all materials would be used for the manufacture of new products, using waste as a resource and reducing our environmental footprint. We are a long way off this, but we should strive for this as an end result, with all the systems and processes we put in place taking us one step further.

Eco-design is the process of designing a product in such a fashion that its ecological impact is reduced through its life cycle. This includes the extraction of materials, the manufacturing of the product, its distribution, the use and the disposal of the product. The idea is to identify elements during this process that have significant influence on the environmental impacts. The existing producer responsibility for treatment can act as an important driver for improving end-of-life design aspects.

There are many metals that can be recovered from electronic consumer goods. Recoverable quantities of critical raw materials are present in a portion of the WEEE flow, mainly in low-energy light bulbs, batteries, cathode ray tubes, flat panels, mobile phones and printed circuit boards. The better performing treatment plants can recover a high volume of the precious metals it contains.

*A good example of a 'Best of Two Worlds' approach is provided by WorldPC (see [www.worldpc.org](http://www.worldpc.org)), an NGO that seeks to have PCs dismantled in Africa, creating local jobs, but then send back the circuit boards to a state-of-the-art recycling plant in Europe to ensure recovery of precious metals and other critical materials. The WEEE Forum has signed a partnership with WorldPC.*

*The WEEELABEX standards on collection, handling, transporting, storing and processing of WEEE (see XI) contribute to better de-pollution of hazardous WEEE. The next step could be to expand the standards to include the requirement to recover certain types of critical metals. The main compliance scheme in Belgium, for example, has integrated such requirements concerning the recovery of palladium, gold, silver and aluminium from printed circuit boards into its contracts.*

## About the WEEE Forum

The WEEE Forum ([www.weee-forum.org](http://www.weee-forum.org)) is a European non-profit association speaking for 41 electrical and electronic equipment waste (WEEE) producer compliance schemes – alternatively referred to as ‘producer responsibility organisations’ (PRO). It was set up in the early 2000s. The 41 PROs are based in Austria, Belgium, Czech Republic, Denmark, Italy, Germany, Greece, France, Hungary, Ireland, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. It is the biggest organisation of its kind in the world. In 2011, its member organisations reported collection and proper de-pollution and recycling of about 2 million tonnes of WEEE. Members in 2012: Amb3E, Appliances Recycling, Asekol, Asekol SK, EcoAsimelec, Ecodom, Ecofímica, Colelec, Ecologic, Ecoped, Eco-RAEE's, ecoR'it, Eco-systèmes, Ecotic, Eco Tic, EEPA, ElectroCoord, ElektroEko, Elektrowin, El-Kretsen, elretur, el retur, Envidom, Fotokiklosi, ICT Milieu, Lightcycle, Lumicom, RAecycle, Recicla Canaria, Recupel, ReMedia, Repic, Retela, RoRec, SENS, SLRS, SWICO, UFH, Wecycle, WEEE Ireland and Zeos.

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