

by John Dickenson



Electronic signals

A year into the EU WEEE Directive

This summer marks the first anniversary of the EU WEEE Directive's coming into force. Problems in implementation have taken centre stage, but these should not overshadow the significant global step forward that the legislation represents.

E-waste is one of the fastest-growing waste components

Quagmire'. 'Chaos'. Not words you want to hear about a policy you are about to work with. Even the most ardent admirers of the European Union's groundbreaking Waste Electrical and Electronic Equipment (WEEE) Directive have probably encountered these terms or used them themselves in the last few months when discussing this policy and the road to its implementation.

It's been nearly a year since the Directive took effect on 13 August 2005 and, for many, it's been a year of frustration spent sorting through the Directive's knotty issues in an attempt to arrive at a successful implementation strategy.

But as difficult as it is to begin to determine how to comply with it, there is no doubt that when the EU established Directive 2002/96/EC, it took the global lead in dealing with one of the most important waste issues of our time. And for this it should be commended.

E-waste, or WEEE, is one of the fastest-growing components of the global waste stream and arguably one of the most toxic. It has been estimated that 500 million PCs worldwide reached the end of their life-cycle in the decade between 1994 and 2003. These PCs contained an estimated 2,900,000 tonnes of plastics, 718,000 tonnes of lead, 1363 tonnes of cadmium and 287 tonnes of mercury.¹

Article 1 of the WEEE Directive² states that: 'The purpose of this Directive is, as a first priority, the prevention of waste electrical and electronic equipment (WEEE), and in addition, the reuse, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste'. The WEEE Directive describes 10 categories of WEEE and covers electrical and electronic equipment (EEE) used both by consumers and professionals. It is based on the principle of producer responsibility, meaning that the costs incurred in managing the WEEE are to be borne by the producer of the equipment that generates the waste. The Directive stipulates the following:



The WEEE Directive includes requirements for the dismantling of electronic equipment and the recovery of useful materials

- The design and production of EEE should facilitate dismantling and recovery for later reuse and recycling of the WEEE.
- WEEE should be collected separately from other forms of waste, and this collection should be free of charge to households.
- Best available treatment, recovery and recycling techniques should be used to ensure health and environmental protection.
- EEE put on the market after 13 August 2005 must be labelled with the 'wheelie bin' graphic² in order to keep

- the product out of general municipal waste collection.
- By the end of 2006, Member States must meet a rate of 4 kg/year/inhabitant collected from private households.
- By end of 2006, producers must meet a target rate of recovery and a target rate of reuse and recycling for the WEEE that they receive. Rates vary per category.
- Producers are responsible for financing the take-back and management of WEEE.
- Information necessary to fulfil these requirements should be provided to users and to treatment facilities.
- Both producers and Member States must report the results of their compliance with the Directive to the EU at regular periods as defined by each Member State.

As with any other directive, the individual Member States of the EU are required to transpose the WEEE Directive into their national law in a manner that is no less strict than the Directive itself. Individual parties affected by a directive are required to comply with laws put in place by the individual Member States and not by the directive itself.

What have been the results so far?

Although the WEEE Directive was passed by the EU on 27 January 2003 and the EU required all 25 Member States to transpose it into national law by 13 August 2004, only two Member States (Greece and the Netherlands) had done so

The labelling of products with the wheelie bin graphic seems to have had success

by this deadline. As of late spring 2006, only 14 more Member States had fully completed the transposition, and not all of those were open for registration. Three of the largest EU Member States (France, Italy and the UK) are still months from opening registration.

One obligation that seems to have had greater success as of its start date of 13 August 2005 is the labelling of products with the wheelie bin graphic. Anecdotal evidence obtained from discussions with producers (true producers, i.e. the company whose name is on the product) and random viewing of EEE on the market indicates that the labelling requirement was taken very seriously and is in wide use.



The 'wheelie bin' graphic marked on electrical and electronic equipment reminds users of proper disposal

And what are the issues?

'Quagmire,' 'chaos' – why these terms in reference to this Directive? Numerous issues have arisen as the Directive has been transposed into national laws to which obligatory parties must conform. In this section I'll discuss the most critical of these.



Many have raised questions concerning who is considered 'the producer'

Will the real 'producer' please stand up?

A speaker at the September 2005 'Challenges in the Implementation of the WEEE Directive' conference in Brussels stated in exasperation: 'How can you have a good, workable directive when it is unclear who the directive actually applies to?' What was clear was that this attendee wasn't the only one with that question.

Since the Directive is based on 'producer responsibility', the simple answer would seem to be: 'The producer is the

targeted, legally responsible party'. The catch comes in the definition of the term 'producer', and herein lays one of the most problematic of the issues surrounding this Directive. Although the producer is generally thought to be (and intended by the European Parliament to be) the company whose brand name is on the product, in fact this company is quite frequently not the 'producer' according to the strict interpretation of laws that were put in place by the Member States upon transposition of the Directive.

The Directive states that the 'producer' is any person who:

- manufactures and sells EEE under their own brand
- resells under their own brand equipment produced by other suppliers
- 'imports or exports EEE on a professional basis into a Member State' (here's the kicker).

With this definition, many well-meaning electronics companies set off to register their company in a Member State whose laws are in effect. Upon attempting to fill out the registration forms, they encountered another requirement: in order to register, a company must have a legal entity with a VAT (value-added tax) number in the specific Member State in which it is registering.

Because the electronics supply chain model commonly uses a distributor or reseller to sell the product to end customers in a particular country, many companies, even though they manufactured and designed the product,

The entire concept of 'producer responsibility' is called into question

suddenly found that they are no longer the 'producer'. In other words, the manufacturer – the company with its name brand on the product, the company that put the wheelie bin label on the product, the company that provides the required information for treatment facilities and the company that designed the product – is no longer the 'producer' according to that particular Member State's law. Instead, the entity considered to be the 'producer' is merely a distributor that moves the product from manufacturer to end customer. As well as the incredible number of logistical issues this raises, the entire concept of 'producer responsibility' is called into question. If the company responsible for the design and manufacture of the product does not have the obligation to comply with the Directive, how can it have the responsibility?

Ironically, many producers want to take on the responsibility but are having a difficult time trying to determine how to do this with Member States not accepting the companies' attempted registrations.

CECED, an organization that represents the manufacturers of domestic appliances in Europe (www.cecce.org), has clear views on this issue:³

- ‘The Commission should enforce the producer responsibility principle ...’
- ‘Next year the Commission must start preparing an amendment to the Directive to address the flawed producer definition and provide legal certainty to the entire economic community’.
- ‘Only one producer can be legally responsible for the product put on the European market’.

Complexity and differences in transposition

By using a directive rather than another type of legal vehicle, the EU allowed each of the 25 Member States to create its own individual legislation. Technically the transposed laws cannot be any less strict than the Directive and the Directive provides guidance for the transpositions.

However, each Member State that has already transposed the Directive has created a unique set of laws that differ in some key areas from the original.

Producers selling the same products across the entire EU now have to deal with differing obligations, even in those countries in which they have a small number of sales. These differences include:

- registration procedures
- deadlines
- financing mechanisms

- definitions of producer
- visible fee allowed or not
- financial guarantees required or not
- other processes.

Add to these the fact that a number of countries have not provided the legislation in English, and you end up with a situation in which considerable resources are being spent on the administrative aspects of the Directive and transpositions rather than the actual recycling or reuse.

Start-up pains

Then there are the horror stories in the countries where registration has occurred and take-back has begun. They

Considerable resources are being spent on the administrative aspects

range from recyclers being unable to handle the enormous volume of requests submitted, causing e-waste to pile up, to bins being stolen prior to the designated recycler picking them up.

Another start-up pain is the lack of a financial infrastructure that would provide viable options for producers to meet their financial guarantee requirements (these vary by Member State). A check of some of the major banks in Spain, for example, shows what appears to be a complete lack of knowledge that there is a market out there

A US perspective

In the summer of 2004, a number of US-based electronics companies began to hear about the forthcoming EU WEEE Directive. What they were hearing left them confused and concerned. What is it? Will it affect us? If so, how soon? How do we comply with it? These were only the first of what quickly became a profusion of questions.

Many mid-sized Silicon Valley companies, although concerned about the environmental impact of their products, did not have a large internal environmental staff that could effectively track something as complex, far-reaching and various as the WEEE Directive would prove to be. So they looked for assistance to find some answers. One company that provided such answers was AER Worldwide.

AER Worldwide had already begun researching the WEEE Directive. Given that each Member State was transposing the Directive into its own set of laws, AER quickly realized that it needed help to unravel the legal complexities of the emerging legislation and compliance programs – ideally from a European source.

Fortunately, AER was already working with an Irish recycler, now known as TechRec. TechRec introduced AER to the Recycling Network Europe (RENE) group at one of the group's meetings in the autumn of 2004. RENE was perfectly positioned to provide the help AER needed. RENE capitalized on the already established small and medium-sized e-waste industry within Europe to create a dense recycling network in which logistics costs could be minimized.

AER Worldwide is now working jointly with RENE to provide a comprehensive pan-European WEEE-compliance management solution for these electronics' companies as well as for new clients.

Many mid-sized US electronics producers need help in finding out what the WEEE Directive will mean for them



for a financial product of the type producers need to comply with the WEEE Directive. One would expect that this need would have been identified and that companies would have developed products to satisfy those needs. Until the market catches up with the legal requirements, what are producers to do?

Where do we go from here?

One positive note is that the EU recently put out a notice for a public contract for a review of the Directive. The notice,

entitled ‘2008 Review of Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)’, states:

‘The objective of the study is to complete the information needed to inform an analysis of options for review of the Directive and to provide that analysis, in particular by giving a thorough evaluation of the impacts, efficacy and efficiency of the Directive from an environmental and economic, and as far as possible, a social perspective, by analysing the management (collection, treatment) of different categories of WEEE. The information and analysis will be used as the main content of a future impact appraisal of options for review of the Directive’.⁴

Built into the Directive is a mechanism for continuous improvement that should allow all the problematic issues to be addressed. Furthermore, all the other countries around the world that are in the process of developing their own e-waste legislation now have the benefit of the EU’s experience to draw on, so hopefully they can create models that keep the most useful parts of the Directive and eschew the problematic ones. The European Commission has asked for public input into the review of the Directive until mid-August 2006.

Another positive prospect in this regard is an initiative termed, ‘Solving the E-waste Problem’ (StEP), co-initiated and co-ordinated by the UN’s research arm, the United Nations University (UNU). StEP functions as a neutral arena of various UN organizations (e.g. the UN Environment Programme, the UN Conference on Trade

and Development, UNU) with prominent partners from industry, governments, civil society and the science sector. Its aim is to initiate dialogue and promote the development of feasible, just and sustainable solutions to the globally mounting e-waste problem, with its main focus on five areas:

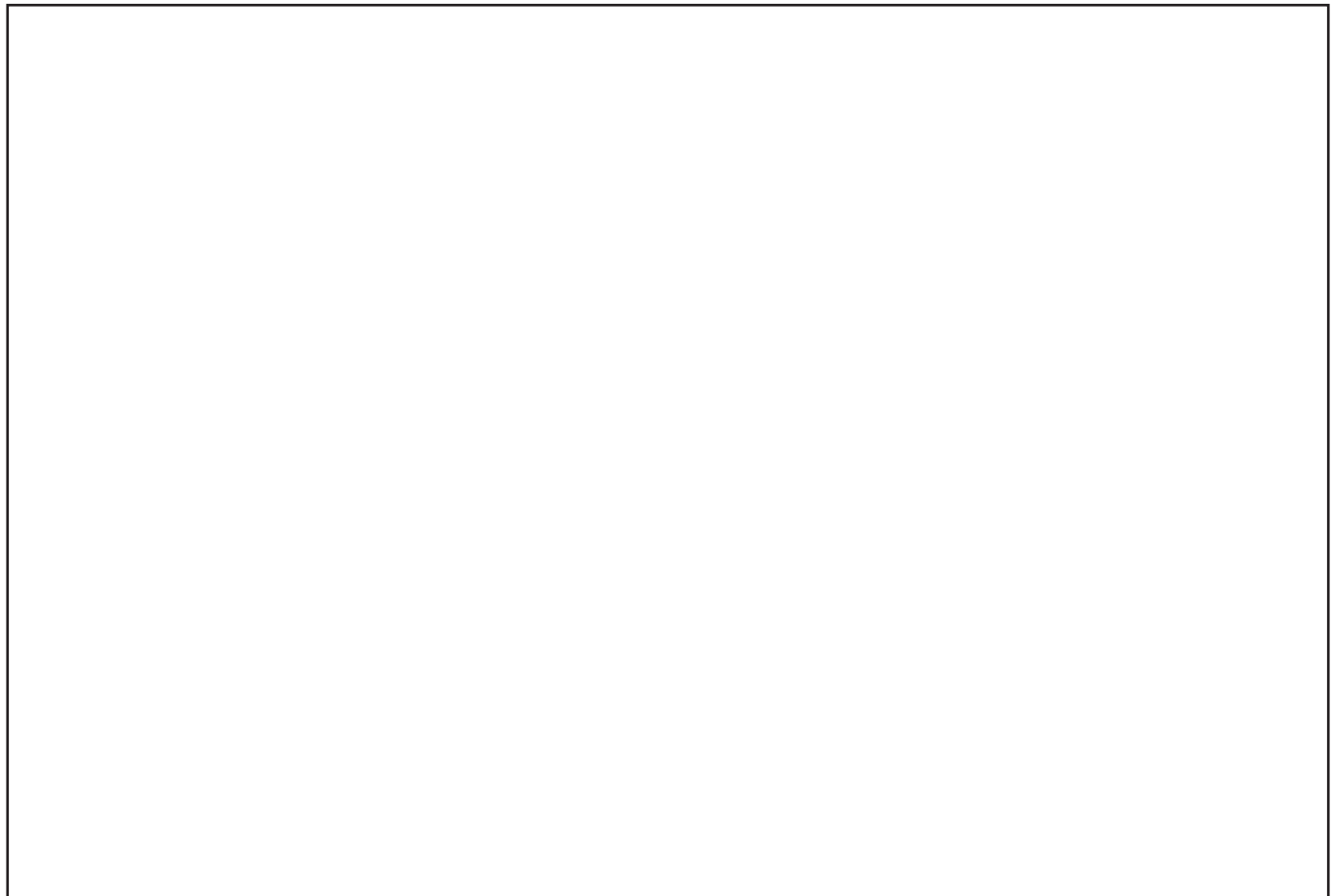
- policy
- redesign
- recycle
- reuse
- knowledge management and capacity-building.

Through this co-ordinated effort, it is hoped that lessons from the WEEE Directive – both the good and the bad – can be addressed globally, the end result being the development of e-waste legislation that provides a worldwide solution to this mounting problem.

Some lessons

One law, not 50

In the US, where I am based, we frequently complain about the 25 different national laws in Europe that will result from the transpositions of the WEEE Directive. It’s a legitimate complaint, but double that, with 50 states, and the confusing experience in Europe will be almost unmanageable. Certainly one of the most useful lessons other countries can learn from the EU experience is that WEEE legislation



should be centrally driven; for example, in the US there should be one legislation for the entire country with which all obligating parties must comply.

The electronics industry is arguably the most global industry in existence today. Virtually no major electronics

A WEEE policy and process must be formulated that spans the globe

goods are built solely in a vertically integrated model within any one country. The components for a single device that is being used in an individual country are produced all over the world. Because the desired end result of recycling is that a company producing an item will be acquiring the input materials for that item from the recycling market and not from virgin materials, and given that those producers span the globe, a WEEE policy and process must be formulated that spans the globe, let alone is common across the EU and the US.

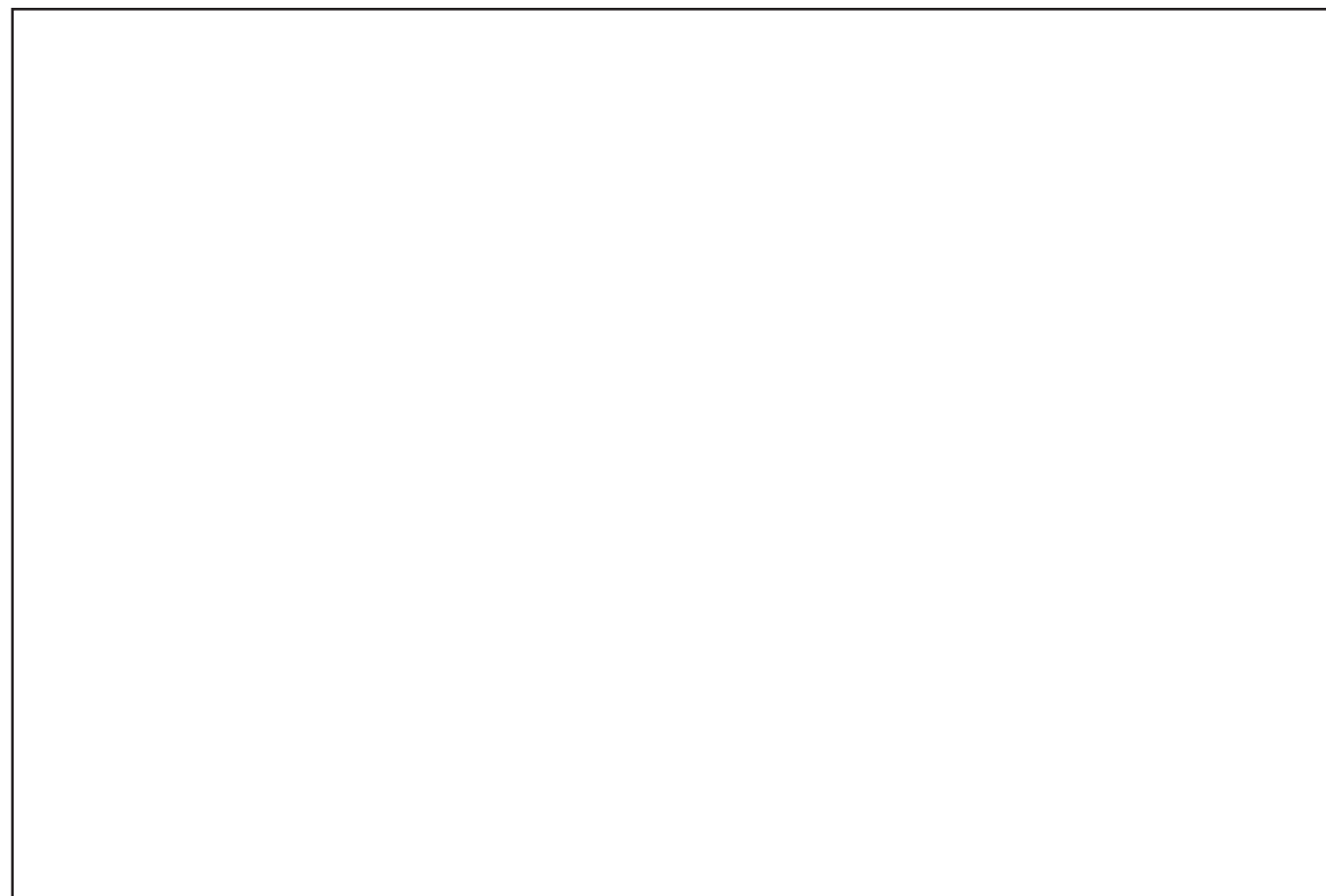
The need for a global perspective applies to reuse as well. Demand for various technological 'vintages' differs from country to country and region to region. Although at first this may seem to present difficulties, when approached globally, it can be exploited both to prolong the life of electronics goods and to further development in countries that are not as tech-savvy – which may ultimately lead to a narrowing of the worldwide digital divide.

The StEP initiative is working to provide just such a global perspective on reuse and to create a methodology for movement of technology products that have outlived their use in one country but may still have years of potential use in another country. E-waste has, at times, been moved across borders under the false pretence of being 'for reuse' just so it can be treated in a non-environmentally friendly manner in less developed countries. Mechanisms must therefore be put in place to prevent this practice in order for true reuse to occur across borders. StEP is working to develop just such a mechanism.

Encourage reuse

Extending the life of an electronic component causes a reduction in resource consumption, because it dispenses with the additional energy consumption involved in building a new product. Furthermore, the additional energy consumption increases greenhouse gas (GHG) emissions. Given the increasing environmental priority of reducing GHG emissions, the reuse and life extension of electronic components needs to be given a higher priority. WEEE legislation must actively encourage reuse and provide incentives for all stakeholders to extend the life-cycle of electronic goods as much as possible.

The WEEE Directive supports reuse in such statements as the following:



- ‘Where appropriate, priority should be given to the reuse of WEEE and its components, subassemblies and consumables’ (Paragraph 18, page 2).
- ‘Member States shall give priority to the reuse of whole appliances’ (Article 7).

However, the Directive goes on to state that the reuse of whole appliances shall not be used in the target calculations until the end of 2008, providing at least two years with no incentive for companies to promote reuse of entire products. Article 2.6 of the European Commission’s ‘Frequently Asked Questions’ states that: ‘If equipment is sorted for reuse before going to the treatment facilities it does not count toward the targets.’⁷⁵

In addition, there do not seem to be any mechanisms built into the Directive and its transpositions that would provide an incentive to either Member States or producers to reuse as opposed to recycling.

Revisions to the EU WEEE Directive and other countries’ WEEE legislation should actively encourage reuse by providing mechanisms that give incentives to all parties for reuse. Further legislation should not work counter to the existence of social enterprises as viable participants in the e-waste management industry. These enterprises provide an employment option for sectors of society that would otherwise have a difficult time finding employment. Legislation should encourage both these enterprises and efforts to mitigate the digital divide.



Revisions to the Directive should extend the provisions for reuse

A sustainable global reverse supply chain for electronics?

The EU WEEE Directive has started the ball rolling. The issue is no longer will countries adopt e-waste management laws, but instead how will those laws be constructed? Given the incredible proliferation of electronic goods worldwide today and their increasingly rapid obsolescence, it was essential that strong direction be provided in order to mitigate the deleterious environmental effects.

The WEEE Directive will ultimately stem the previously growing tide of e-waste accumulation in the EU. Stemming

WEEE legislation must actively encourage reuse

this tide will redirect those resources embedded in the e-waste back into the production of new products where they belong in an increasingly closed-loop cycle.

But WEEE management legislation must be improved, both through a formal review of the EU's legislation and through the development of new legislation in China, the US, India and across the planet. It is clear that the electronics supply chain and marketplace is a truly global one.

Will these countries be able to create a truly sustainable reverse supply chain for electronics goods that protects the environment, respects labour rights and reflects the global nature of the forward supply chain?

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AER Worldwide is a member of the Recycling Network Europe (RENE).
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Notes

1. Widmer, R., Oswald-Kraft, H., Sinha-Khetriwal, D., Schnellmann, M. and Boni, H. 'Global Perspectives on E-waste'. *Environmental Impact Assessment Review* 25 (2005).
2. Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment, *Official Journal of the European Union*, L37, 24–38 (13 February 2003).
3. CECED presentation 'Enforcing the Directive & Surveying the Market', to the Electronics Recycling Summit in Amsterdam, 11 July 2005, page 13
4. See http://ec.europa.eu/environment/waste/weee_index.htm
5. See http://ec.europa.eu/environment/waste/pdf/faq_weee.pdf

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