

## **Manual of European Environmental Policy**

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Farmer, A.M. (2012) (Editor). Manual of European Environmental Policy. 1043pp. Routledge, London.

# Waste electrical and electronic equipment

<b>Formal references</b> <a href="#">2002/96/EC</a> (OJ L37 13.2.2003) Proposed 13.6.2000 – <a href="#">COM(2000)347</a> and 6.6.2001– <a href="#">COM(2001)315</a>	Directive on waste electrical and electronic equipment (WEEE)
Directive <a href="#">2003/108/EC</a> (OJ L345 31.12.2003 Proposed 29.4.2003 – <a href="#">COM(2003)219</a>	Amendment
<b>Legal base</b>	Article 192 TFEU (originally Article 175 TEC)
<b>Binding dates</b>	
Entry into force	13 February 2003
Date of transposition	13 August 2004
Collection/take-back systems to be established	13 August 2005
4 kg/inhabitant separate collection target and recovery targets to be met	31 December 2006

## Purpose of the Directive

The amount of waste electrical and electronic equipment (WEEE) is increasing rapidly within the EU. In 1998 figures estimated that waste from this stream was growing at three times the rate of other municipal waste, and was accounting for over six million tonnes annually. Furthermore, the trend suggested that WEEE would double by 2010<sup>1</sup>. The Directive therefore seeks to prevent WEEE and increase the rates of reuse, recycling and recovery of waste. It also aims to improve the environmental performance of producers, distributors and consumers involved in the life cycle of electrical and electronic equipment (EEE).

## Summary of the Directive

The Directive establishes producer responsibility for WEEE by *inter alia* setting targets for recovery, requiring collection systems to be set up, and encouraging the design and production of EEE to take future reuse, recycling and recovery into account. Indeed, Member States are to take ‘appropriate measures’ to ensure that producers do not prevent this through specific design features or manufacturing processes. It applies to EEE falling into categories set out in Annexes 1A and 1B (see Table 1). Equipment connected with

security of Member States, arms, munitions and war material is excluded from the Directive. The Directive is mainly focused on WEEE from private households, although the definition of this also includes waste from commercial, industrial, institutional and other sources, which, because of its nature and quantity, is similar to that from private households. The Directive is complemented by Directive [2002/95/EC](#) on restriction of the use hazardous substances in EEE (ROHS).

Member States are to adopt measures to minimize the disposal of WEEE as unsorted municipal waste and to achieve high levels of separate collection. By 13 August 2005, they are to ensure that for WEEE from private households:

- Systems are set up allowing final holders and distributors to return waste at least free of charge. Member States are to ensure their availability and accessibility.
- Distributors, when supplying a new product, will allow WEEE to be returned at least free of charge, on one-for-one basis as long as the equipment is of an equivalent type (although it is possible to depart from this provision so long as returning WEEE is not made more difficult and that the system remains free of charge).
- Producers may set up and operate individual and/or collective take-back schemes.

By 31 December 2006 at the latest, a separate collection target of at least an average of 4 km/inhabitant/year must be achieved from private households. The Commission is to propose a new mandatory target by 31 December 2008.

Member States must report progress on compliance to the Commission using the specifications set out in Commission Decision [2005/369/EC](#) on waste statistics.

#### *Treatment of waste*

Producers or third parties acting on their behalf are to set up systems for the treatment of WEEE using the best available treatment, recovery and recycling techniques. The systems may be collective or individual. As a minimum, treatment is to include the removal of all fluids, plus a selective treatment for materials and components of WEEE, as outlined in Annex II of the Directive, for example the removal of batteries and components containing mercury. The Directive sets out technical requirements for the treatment and storage of WEEE (Annex III).

Any establishment or undertaking carrying out treatment operations must obtain a permit from the Member State's competent authority, in accordance with the Directive [2006/12/EC](#) on waste. A derogation to this requirement may apply to recovery operations concerning WEEE, as referred to in Article 11 of the same Directive, so long as an inspection is carried out by the competent authority before the registration. The inspection should be carried out at least once per year, and shall verify the types and quantities of wastes to be treated, the general technical requirements to be complied with, and the safety precautions to be taken.

Member States may establish minimum quality standards for the treatment of WEEE and, if so, the Commission is to be informed and will subsequently publish the standards. They should also encourage establishments which carry out treatment operations to introduce certified environmental management systems (see the Section on [eco-management and audit scheme](#)).

Treatment of waste may be carried outside of the Member State or the Community, provided that shipment is in compliance with Regulation (EC) No [1013/2006](#) regarding the shipment of waste within, into and outside of the Community. If exported outside of the Community, the waste will only be counted towards the fulfilment of obligations for recovery, reuse and/or recycling if the operation took place under conditions that are equivalent to the requirements of this Directive.

### *Recovery*

Systems are to be set up on either a collective or individual basis. The Directive sets out targets for the recovery of different categories of waste, as set out in Table 1. These are to be achieved by 31 December 2006.

Member States are to ensure that producers or third parties keep records on the mass of WEEE, their components, materials or substances when entering and leaving the treatment facility and/or the recovery/recycling facility. The Commission is to submit detailed rules for monitoring compliance, including specifications for materials, by 13 August 2004.

Furthermore, Member States are to encourage the development of new recovery, recycling and treatment technologies.

**Table 1- Rates of recovery of WEEE to be attained by 31 December 2006**

<b>Category (according to Annex IA)</b>	<b>Examples include (according to Annex IB)</b>	<b>Targets for recovery</b>
Category 1: large household Appliances.  Category 10: Automatic dispensers.	Refrigerators, freezers, electric stoves, washing machines, microwaves.  Dispensers for hot drinks, cans, money.	Minimum 80 per cent by an average weight per appliance; and minimum 75 per cent by an average weight per appliance, for component, material and substance reuse and recycling
Category 3: IT and telecommunications equipment.	Centralised data processing, main frames, printer units, PCs and laptops including mouse, screen and keyboard, copying	Minimum 75 per cent by an average weight per appliance; and minimum 65 per cent by an

Category 4: Consumer equipment	equipment, calculators. Radios, televisions, video cameras, hi-fis, video recorders.	average weight per appliance, for component, material and substance reuse and recycling
Category 2: Small household appliances  Category 5: Lighting equipment	Vacuum cleaners, irons, toasters, fryers, electric knives.  Luminaires for fluorescent lamps (except in households), straight and compact fluorescent lamps.  Drills, saws, sewing machines, tools for welding, soldering, tools for mowing or other garden activities.  Electric trains or car racing sets, video games, hand held consoles, coin slot machines.  Smoke detector, heating regulators, thermostats.	Minimum 70 per cent by an average weight per appliance; minimum 50 per cent by an average weight per appliance, for component, material and substance reuse and recycling; and for gas discharge lamps the rate of component, material and substance reuse and recycling shall reach a minimum of 80 per cent by weight of the lamps

*Financing collection, treatment, recovery and environmentally sound disposal of WEEE*

By 13 August 2005, producers are to provide for the financing of the collection, treatment, recovery and environmentally sound disposal of WEEE from private households deposited at collection facilities. For those products placed on the market after 13 August 2005, producers will be responsible for financing the collection, treatment, recovery and environmentally sound disposal, for waste from their own products. This can be done on an individual basis or by joining a collective scheme, as with the Packaging and Packaging Waste Directive [94/62/EC](#).

To overcome the potential for future orphan waste (where the producer cannot be found and/or ceases to exist), producers are to provide a financial guarantee when placing a product on the market showing that the management of WEEE will be financed. This may take the form of participation in a scheme for financing management of waste, a recycling insurance or a blocked bank account. For a transitional period of eight years after the Directive enters into force (or ten years in the case of category 1 products), producers will be allowed to show purchasers the cost of the product's waste management at the point of sale.

For historical waste, that is waste from products put on the market before 13 August 2005, the cost of waste management shall be financed by one or more systems whereby

all existing producers contribute according to their current market share by that equipment type.

Article 9 of the Directive states that by 13 August 2005, producers are to finance costs of collection, treatment, recovery and environmentally sound disposal of WEEE from users other than private households, for products placed on the market after 13 August 2005. Producers are also to pay for the waste management of products placed on the market before this date, although Member States may introduce that users (other than private households) are made partly or wholly responsible for this financing. However, a joint declaration of the European Parliament, Council and the Commission ([OJ L37 13.2.2003](#)) published alongside the Directive noted concerns about the potential financial implications for producers of the wording of this Article, and declared that these issues would be examined at the 'earliest opportunity'.

On 29 April 2003, the Commission issued a proposal to amend Directive 2002/96/EC, regarding the financing of non-household historical waste, and in December 2003 the amendment was adopted as Directive 2003/108/EC. The amendment shifts the burden of financing non-household historical waste that is put on the market after 13 August 2005 from producers to suppliers of replacement equipment. From this date, producers that supply new industrial electrical and electronic products should take back old products where they are equivalent or fulfil the same function. If the equipment is not being replaced the final user (but not private households) would be liable to pay. Producers and users, other than private households, may make arrangements stipulating other financing methods, so long as it is in accordance with the Directive.

### *Information*

In order to encourage correct management of WEEE, Member States are to ensure that users of EEE in private households are provided with information on the requirement not to dispose of WEEE as unsorted municipal waste; the return and collection systems available to them; their role in contributing to reuse, recovery and recycling; and the potential effects on the environment and human health of the hazardous substances in EEE. Member States are to adopt measures to encourage consumers to participate in the collection of WEEE and encourage them to facilitate its reuse, recovery and treatment. They are also to communicate the meaning of the symbol for marking EEE (Figure 1), which indicates that it must be collected separately. Producers are to ensure that this symbol appears on products placed on the market after 13 August 2005, where appropriate.

**Figure 1: The symbol for the marking of electrical and electronic equipment**



Producers must provide information on reuse and treatment for each type of new EEE placed on the market within one year of it appearing on the market. They must also specify the different EEE components and materials, and point out where there are dangerous substances and preparations contained therein. This information is to be made available to reuse centres, treatment and recycling facilities in the form of a manual or by electronic media.

For products placed on the market after 13 August 2005, the producer must be clearly identifiable by a mark on the product. This mark must also state that the product was placed on the market after this date. The Commission is to promote the development of standards for this at the European level.

Member States are to draw up a register of producers and collect information annually on the quantities and categories of EEE placed on its market, collected through all routes, reused, recycled and recovered, and on collected waste exported. This information is to be transmitted to the Commission every two years, and within 18 months of the period covered. The first set of information will cover 2005 and 2006. The Member States are also to report to the Commission every three years on the implementation of the Directive, the first of which will cover 2004–2006. The information submitted is to be based on the questionnaire established by Decision [2004/249/EC](#) on waste statistics. Within nine months of receiving all Member State reports, the Commission will publish a report on the implementation of the Directive.

#### *Other provisions*

Member States are to determine penalties applicable to breaches in national provisions implementing the Directive and to ensure that inspection and monitoring enable the proper implementation of the Directive to be verified.

Under the Directive Greece and Ireland were permitted to apply for an extension of the recovery target deadlines by up to 24 months. This was in recognition of their overall deficit in recycling infrastructure, low population density, geographical circumstances and low level of EEE consumption.

## **Development of the Directive**

The origins of the WEEE Directive are in the work of the Priority Waste Stream Working Group, established by the Commission in 1991. The group looked, amongst other things, at ways of reducing the environmental impact of waste from this source, following concerns that WEEE was increasing. In 1995 the Working Group made a number of recommendations to the Commission on how to improve the way that waste from this source was handled, and to reduce the amount of waste from these products. At the same time, some Member States, including the Netherlands and Sweden, were introducing their own legislation for dealing with WEEE, thus raising concerns about potential obstacles to the internal market.

The Fifth Environmental Action Programme ([OJ C138 17.5.1993](#)) also stated that waste from electrical and electronic equipment was to be one of the target waste streams to be regulated. This followed an acknowledgement that to achieve sustainable development there needed to be significant changes in patterns of production and consumption, and a reduction in wasteful consumption of resources and prevention of pollution. These objectives were still high on the agenda a decade later when the WEEE Directive was finally adopted.

In November 1996 the European Parliament adopted a Resolution requesting that the Commission present proposals on a number of priority waste streams, including waste from electrical and electronic equipment, and for the proposals to be based on producer responsibility. This was reiterated by the Council in its Resolution of 24 February 1997.

The Directive was proposed in June 2000 in conjunction with the proposal for a Directive on the restriction of hazardous substances in equipment (ROHS), although they were proposed as separate measures. It was later decided that they should be separated, mainly because they were to be adopted under different Treaty articles. The WEEE Directive was adopted under Article 175 of the TEC (now Article 192 TFEU), which applies to environmental protection measures, whereas the ROHS Directive is an internal market measure, hence Article 114 TFEU applies. However, the two dossiers continued to be looked at together throughout the co-decision procedure, with the WEEE Directive being the more contentious of the two. Agreement was finally reached by the Conciliation Committee on 8 November 2002.

Disagreements between the European Parliament and Council ran throughout the two and a half years it took to reach agreement on the WEEE Directive. Most disagreement, and the reason for the drawn out discussions, was on the subject of what should happen to orphan waste (that for which no producer can be found) and historic waste (from products placed on the market before requirements of the Directive enter into force). There was

also disagreement over the recycling target per head of population to be achieved; and regarding the financing of waste collection and recycling. The main areas of disagreement are outlined in Table 2.

**Table 2- Summary of European Parliament and Council areas of disagreement in the WEEE co-decision procedure**

Issue	European Parliament position	Council position	Agreement Reached
Separate collection Target	Mandatory target of 6kg/inhabitant to be achieved by 31 December 2005	Endeavour to achieve 4kg/inhabitant within 36 months of entry into force.	4kg/inhabitant to be achieved by 31 December 2006.
Financing	<p>Demanded throughout that it should be mandatory for individual producers to finance waste collection and treatment schemes, so ensuring true producer responsibility. Later adopted a derogation that Member States could use collective schemes only on the condition that they could prove that individual schemes would be disproportionately expensive.</p> <p>Historic waste: Existing producers collectively to finance according to market share by type of equipment</p> <p>Orphan waste: Member States to provide up front guarantees for the financing of future disposal of their products.</p>	<p>Should be up to Member States to decide how to finance the schemes, and collective schemes should be permitted.</p> <p>Historic waste: All producers on the market at the time the cost arises to contribute proportionately.</p> <p>Orphan waste: Producers at the time the cost arises should fund recovery/treatment.</p>	<p>Directive favours individual producer responsibility, but producer can fund this through a private or collective scheme.</p> <p>Historic waste: Existing producers collectively to finance according to market share.</p> <p>Orphan waste: Producers to provide a financial guarantee</p>

Recovery Targets	To be met by 31 December 2005.  Category 1 and 10: 90 per cent recovery; recycling/re-use 75 per cent.  Categories 3 & 4: 85 per cent recovery; 65 per cent re-use/recycling.  Categories 2,5,6,7, and 9: 80 per cent recovery; 50 per cent re-use/recycling.	To be met 46 months after entry into force.  Category 1: 80 per cent recovery; recycling and re-use raised to 75 per cent.  Categories 3 & 4: 75 per cent recovery, 65 per cent re-use/recycling.  Categories 2,5,6,7,9 and 10: 70 per cent recovery; 50 per cent re-use/recycling.	To be met by 31 December 2006.  Agreed with Council targets, except for Category 10 where adopted 75 per cent re-use/recycling target (see Table 1).
Derogation for Small companies	Disagreed.	Put forward a five-year exemption from financing requirements for small independent manufacturers transitional period.	Rejected.

## Implementation of the Directive

National transpositions for Directive [2002/96/EC can be found here in the Member States' national execution measures.](#)

The implementation of the WEEE Directive has been a drawn out affair with several Member States (including *inter alia* Estonia, Finland, France, Greece, Italy and the United Kingdom) late in adopting measures to transpose and implement the law. The implementation of the WEEE Directive has proved particularly challenging, with mechanisms for identifying when a product is placed on the EU market and by whom proving challenging. Moreover, industry has complained that Member States have adopted a number of different approaches to implementation resulting in multiple systems for compliance and variability in costs faced by producers.

To date the European Commission has published one formal implementation report looking at the situation between 2004 and 2006<sup>2</sup>. This was supported by a detailed technical report drafted by Ecologic and the Institute for European Environmental Policy

to support the Commission’s review of implementation<sup>3</sup>, a summary of key implementation points is set out in Table 3. The Commission report estimated level of WEEE produced by the EU to be 8.3–9.1 million tonnes annually, rising to 12.3 million by 2020. It also noted that the EU’s major trading partners had brought similar legislation into force – China, Korea, Japan and some US states. However, it was reported that, despite the Directive’s requirements, only one third of WEEE in the Community was reported as appropriately treated. Moreover, illegal trade in WEEE to non-EU countries was considered widespread. Finally, it concluded that the 4 kg /person per year target under the WEEE Directive was inappropriate, not properly reflecting the situation in the individual Member States.

**Table 3. Key implementation challenges identified for the WEEE Directive within the Ecologic/IEEP report supporting the European Commission’s assessment of compliance with waste law.**

<b>Implementation Issue</b>	<b>Discussion</b>
Overall compliance	From the materials provided by Member States Cyprus was the only country identified as failing to implement requirements of the WEEE Directive.
Improving waste recycling	An improved rate of WEEE gathering and recycling/recovery was reported in a number of Member States, this is particularly true for Member States which did not have mechanisms for WEEE collection/treatment prior to the Directive coming into force. However, it was not yet possible fully to evaluate the impact on rates given the relatively short time period since transposition.
Product design	Many Member States were noted to have adopted relatively soft provisions within national law related to product design for EEE. These often did not foresee sanction mechanisms in cases that producers disregard provisions.
Collection and Treatment of WEEE	Collective collection/treatment systems have been set up for WEEE from households in the majority of Member States, there were several exceptions to this - in Brussels, Bulgaria, Latvia and Romania. In the latter cases individual producers must establish collection and take back schemes themselves. The overwhelming majority of Member States had copied out the treatment requirements for WEEE in Annexes II and III of the Directive. None applied weaker standards, but several applied additional requirements.
Best Available Technologies	A number of Member States stated that it was difficult to identify and set out what ‘Best Available Techniques’ are in the field of recycling/recovery of WEEE. Only Italy specified a definition for this.
Financing	The key challenge faced regarding financing was the attribution of financial charges to distance sellers, that is those selling EEE over

	<p>the internet transferring goods from one Member State to another. As reported by Ireland, internet based sellers had concerns regarding the duplication of financial obligations due to originally being placed on the market in one Member State, and subsequently also considered to be placed on the market in another. In addition several Member States reported that it was often difficult to ‘get hold of the distance sellers’ situated in other countries and involve them in national WEEE-related schemes.</p>
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In addition to the documents supporting the Commission’s formal assessment of implementation for 2004–2006, a report assessing the implementation of the WEEE Directive was prepared in 2006 by IPTS<sup>4</sup>. This was intended to inform the review of the WEEE Directive (see further developments) and identify key challenges associated with implementing the Directive. Conclusions were drawn regarding: Member State transposition; systems (collective or competitive) for the collection of WEEE; national approaches to WEEE; logistics; fees and the approach to the financial guarantee; the scope of the Directive; and opportunities for harmonization.

## **Enforcement and court cases**

While to date there have been cases concluded by the European Court of Justice in relation to the WEEE Directive, in October 2007 the European Commission announced it would be pursuing legal action against three Member States for failure to adequately transpose the Directive: Estonia, Latvia and Lithuania. This followed the issuing of final warnings for failure to transpose issues to 8 Member States in July 2005 over failure to transpose the Directive: Estonia, Finland, France, Greece, Italy, Malta, Poland and the United Kingdom. According to the Commission’s 2004–2006 implementation report on waste legislation<sup>2</sup>, in 2009 infringement cases for non-conformity with the WEEE Directive were pending against 14 Member States and for failure to report against one.

## **Further developments**

In December 2008 the European Commission published a proposal to ‘recast’, that is consolidate and add new provisions to, the WEEE Directive ([COM\(2008\)810](#)). This proposal was published in tandem with the more extensive recasting of the ROHS Directive, which acts as a companion measure to the WEEE Directive restricting the use of hazardous substances within EEE. The WEEE proposal includes amendments to core waste definitions adopted within Directive [2006/12/EC](#) on waste and importantly revises targets for the collection and treatment of WEEE. Under the proposal the baseline for the collection of WEEE would alter from 4 kg of WEEE per inhabitant/year (which has proved problematic to implement in key Member States and was not in line with baselines adopted within other similar measures such as Directives dealing with packaging and battery wastes) to a minimum collection rate of 65 per cent of WEEE applied to producers. New targets for the recovery, preparation of WEEE for reuse (note that prepared for reuse is a new term adopted within the Directive on waste reflecting that

reuse has been redefined as only relevant for non waste) and recycling are proposed to be delivered by 2011. These are as follows:

- For WEEE falling under categories 1 and 10, 85 per cent shall be recovered and 80 per cent shall be prepared for re-use and recycled.
- WEEE falling under categories 3 and 4, 80 per cent shall be recovered and 70 per cent shall be prepared for re-use and recycled.
- WEEE falling under categories 2, 5, 6, 7, 8 and 9, 75 per cent shall be recovered and 55 per cent shall be prepared for re-use and recycled.
- For gas discharge lamps, 85 per cent shall be prepared for re-use and recycled.

## Related legislation

There are a number of other EU Directives that have a strong interaction with the WEEE Directive. These include:

- Restriction of the use of certain hazardous substances in electrical and electronic equipment (ROHS) Directive ([2002/95/EC](#)) – in many ways the WEEE Directives sister ROHS sets restrictions upon the inclusion of hazardous substances in EEE intended to enable more effective waste management and recycling of WEEE.
- Energy Using Products Directive ([2005/32/EC](#)) – this interacts closely with WEEE and the ROHS Directive setting up a framework for setting out environmental standards for energy using products, which are often also considered EEE.
- Directive on waste ([2006/12/EC](#)) – sets out the framework for the management of wastes in the EU including specifying definitions for waste management activities and the hierarchy of waste management.
- Batteries and accumulators and waste batteries and accumulators Directive ([2006/66/EC](#)) – this Directive sets out restrictions on hazardous substances in batteries and accumulators (akin to ROHS requirements) and provisions for the management of waste batteries and accumulators (akin to the WEEE Directive).
- Packaging and packaging waste Directive ([94/62/EC](#)) – this Directive sets out limit values for the hazardous substances in packaging and requirements for the management of packaging waste.
- End of life vehicles Directive ([2000/53/EC](#)) – this Directive sets out restrictions on the use of certain hazardous substances in vehicles and provisions for the management of end of life or waste vehicles.

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2. European Commission (2009) *Report from the Commission on the Implementation of the Community waste Legislation: Directive 2006/12/EC on waste, Directive 91/689/EEC on hazardous waste, Directive 75/439/EEC on waste oils, Directive 86/278/EEC on sewage sludge, Directive 94/62/EC on packaging and packaging waste, Directive 1999/31/EC on the landfill of waste and Directive 2002/96/EC on waste electrical and electronic equipment*, For the Period of 2004–2006 (COM(2009)633), <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0633:FIN:EN:PDF>
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