

Electronics Takeback Laws: A Summary

(Excerpted from "Electronics Recycling: What to Expect from Global Mandates" 2002
Copyright 2002 Raymond Communications, Inc.)

OK to forward with full credit. To track this issue, subscribe to **Recycling Laws International**. We can also provide custom research and analysis for your company, including research for North America, Europe, Asia and Latin America..

Go to <http://www.raymond.com> Or call 301-345-4237

There are **11 countries that currently have "mandatory" electronics recovery laws on the books** today. They include Belgium, Denmark, Italy, Netherlands, Norway, Sweden, Switzerland, Portugal, Japan, and Taiwan. Recently, Korea's Environment Ministry has published new takeback rules as well. China plans to crack down after the expose on poor working conditions in Guangdong Province for electronics recycling. There are extensive voluntary programs in a number of other countries, such as Germany, and draft takeback bills in several more.

Currently there are six countries with collections organizations set up, which require importers to pay fees on their electronics.

The European Union is moving quickly to enact two new directives on electrical and electronics waste (WEEE): One will require recycling of all kinds of electronics – the other will restrict certain hazardous substances in electronics. Once these directives pass (expected in 2003), it is estimated that *there will be electronics takeback mandates in nearly 30 countries by 2007.*

EU WEEE Directives: What's In them

The European Union is posed to pass two directives on Directive on Waste Electrical and Electronic Equipment (WEEE) by 2003. It started as one directive, but controversy over whether it will be "minimum standards" (for WEEE takeback) or "harmonized" (as for hazardous material bans) prompted the Commission to split the directive in two in June 2000. A third directive on design was also added, though it never got out of the EC. Several member states are pushing ahead with their own programs, although others are content to wait and see what happens with the EU directives.

The two WEEE directives (one addresses takeback; the other, referred to as RoHS, restricts certain heavy metals in electronics, with exemptions) moved through Parliament in 2001, then the Council of Ministers (Environment ministers from the member states) amended them and sent back to Parliament for co-decision in 2002. The Parliament again made 45 amendments in April 2002.

What's IN the Draft WEEE Directive?

The WEEE directive will require producers to set up systems for collection of electronics waste from households and other last holders. It requires the member states to collect 4 (some drafts

put it up to 6 kg) kg per person of WEEE by January 1, 2006, although targets will not be compulsory until more data is available.

The different bodies kept amending the recovery targets in 2001 and 2002. The last two sets available at press time are listed in the table

The definition of “electronics waste” is pretty broad – **just about any product used by consumers or businesses with a plug or battery**. In April 2002, the Parliament deleted the provision that would have included subassemblies and consumables, which are part of the products at time of discarding. It does not include various supplies such as toner cartridges,

2006 Recovery Targets; WEEE Draft 2nd Reading April 2002

Item	CM Recycling Target	Parliament Target 2nd	CM TOTAL Recovery target	EP Recovery Target 2nd
Large HH appliances & auto. dispensers	75%	75%	80%	90%
Small HH appliances	50%	50%	70%	80%
IT & Telecom Equipment	65%	70%	75%	75%
Consumer Equipment	65%	70%	75%	75%
Lighting	50%	50%	70%	80%
Elec. tools	50%	50%	70%	80%

according to RLI experts. The Council of Ministers broadened the scope a bit by adding at the end of each category a statement that any appliance that has the same characteristics as those listed (e.g. any machine for sewing, drilling, grinding, etc.) was also included. (See list end of this summary) The later drafts also added sports equipment to the list of covered items.

The draft originally allowed a five year grace period before companies would have to take back new equipment, and left the issue of collective or individual responsibility up to the member states. Moreover, the draft directive clarifies that although states cannot discriminate against companies that want to do individual takeback, companies are obligated to contribute financially to the system that applies to historical electronics waste in general.

The Council of Ministers draft had exempted small independent manufacturers with a turnover of less than 2 million/year and fewer than 10 employees for five years. However, the Parliament **removed this exemption** on second reading in April 2002. The only exemptions to WEEE directive are for national security and war equipment – but not regular military equipment.

It should be noted that while **medical equipment** is included in the directives, there are no recycling goals listed for it. The intent is that government give industry five years to develop a new infrastructure to take back the old equipment. The EC is supposed to then set mandatory recycling goals for medical equipment down the road.

Retailers: Retailers are not considered manufacturers unless they actually make the product. If

it is co-branding, then the electronics maker is responsible for takeback, according to April 2002 amendments.

Article 4 says member states shall set up systems for takeback for consumers **free of charge**, within 30 months after enactment. Companies can opt for individual or collective systems, and they must pay for historic waste. In the April amendments, MEP's left in a provision that allows member states to make producers pay for collection from households, but they rejected an amendment that would have forced industry to automatically pay for such collection.

ICI recovery: An original provision that would allow companies to negotiate who should pay for recovery with their business customers was rejected. Thus, producers will have to pay for recovery from their business and industrial customers as well.

The member states must collect 6kg per capita (though the Council of Ministers wanted to keep it at 4 kg). This is not mandatory at first, however.

Article 5 allows *alternative treatment* (other than regular recycling) for electronics as long as it protects human health. *Observers say this may be a loophole for producers to burn a lot of WEEE instead of recycling it.*

Design: Companies cannot design a product or consumable that cannot be reused or recycled (example: smart cartridges).

Orphan Wastes: To discourage new firms from going out of business and leaving liability to other producers, an amendment will require manufacturers to either join a collection organization, set up a blocked account, or pay a guarantee provision at import.

Exports: Exports of WEEE outside the EU will be very difficult – a member state can oppose export if the receiving facility does not meet technical requirements.

Member states may allow companies to place a “**visible fee**” on their products – since this is already in place in several countries.

Electronics must be **marked with the crossed-out wheelie bin** (as required on **batteries**). In addition, they must indicate that hazardous substances they contain. (See labeling section.)

Greece and Ireland will be given 24 extra months to comply with the directives because of their rural nature and lack of infrastructure.

Enforcement: A new amendment which requires member states to have an inspection and enforcement infrastructure in place may prove to be controversial in conciliation committee, observers say. If this passes, companies can expect more seizures at the border, as was the case with the Sony Playstations in the fall of 2001.

Pre-Treatment:

The WEEE directive requires that prior to recycling, certain items be removed, such as PCBs Mercury containing components, batteries, certain circuit boards, plastic containing brominated flame retardants, etc. The text says recycling shall not hinder re-use as a priority option.

RoHS Directive

The Directive on toxics (RoHS) bans heavy metals and some flame retardants (PBBB and PPBDEs) by 2008 in all covered electronics, with the following exemptions (according to the draft from the Council of Ministers, 6/2001) However, the date for enactment was moved up to 2006 from 2007 by April 2002 amendments by Parliament. Other amendments:

1. **Spare parts:** MEP's reinstated an exemption to the RoHS for spare parts made before 2006. Consumables were taken out of the draft, which means that in the absence of any mention of these, it is unclear whether the directives will apply to them or not.
2. **Future bans:** A new amendment that will have the EU decide on prohibition on other hazardous substances, "and the substitution thereof by more environment-friendly alternatives which ensure at least the same level of protection from consumers."

The follow exemptions to RoHS still stood as the directives went to the EC in spring 2002:

Mercury in compact fluorescent lamps not exceeding 5 mg per lamp

Mercury in straight fluorescent lamps for general purposes not exceeding

- halophosphate 10 mg

- triphosphate with normal lifetime 5 mg

- triphosphate with long lifetime 8 mg

Mercury in straight fluorescent lamps for special purposes

Mercury in other lamps not specifically mentioned in this Annex

Lead in glass of cathode ray tubes, [...], electronic components and fluorescent tubes

Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminium containing

up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight

Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85% lead),

Lead in solders for servers, storage and storage array systems (exemption granted until 2010),

Lead in solders for network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunication,

Lead in electronic ceramic parts (e.g. piezoelectric devices).

Cadmium plating except for applications banned under Directive 91/338/EEC amending

Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.

Deca-BDE's may not be banned if the risk assessments come back favorable to industry in 2003.

It should be noted that there are no clear definitions of many terms – such as “recycling,” and “servers,” and this has designers in a quandary. Many of the definitions may end up being left to member states to sort out in their new legislation. This will take two years.

Indicative list of products which fall under the WEEE directives:

1. Large Household appliances

Large cooling appliances

refrigerators

Freezers

Washing machines

clothes dryers

Dish-washing machines

Cooking

Electric stoves

Electric hot plates

Microwaves

Heating appliances

Electric heaters

Electric fans

Air conditioners

Other large appliances used for cooking and other processing of food

Other large appliances for heating rooms, beds, seating furniture

2. Small Household appliances

Vacuum cleaners

Carpet sweepers

Irons

Electrical knives

Coffee machines

Hair dryers

Tooth brushes

Other appliances for cleaning

Appliances used for sewing, knitting, weaving and other processing for textiles

Irons and other appliances for ironing, mangling and other care of clothing

Toasters

Fryers

Grinders, coffee machines and opening or sealing containers or packages equipment

Electric knives

Appliances for hair-cutting, hair drying, tooth brushing, shaving, massage and other body care appliances

Clocks, watches and equipment for the purpose of measuring, indicating or registering time

Scales

3. IT & Telecommunication-Equipment

Centralized Data processing:

Main frames

Minicomputers

Printer units

Personal Computing:

Personal Computers (CPU, mouse, screen and keyboard included)

Lap-top computers (CPU, mouse, screen and keyboard included)

Notebook computers

Note-pad computers

Printers

Copying equipment

Electrical and electronic typewriters

Pocket and desk calculators

User Terminals and systems

Fac-simile

Telex

Telephones

Pay telephones

Cordless telephones

Cellular telephones

Answering systems

and other products and equipment for the collection, storage, processing, presentation or communication of information by electronic means

User terminals and systems

and other products or equipment of transmitting sound, images or other information by telecommunication

4. Consumer equipment

Radio sets (Clock radios, radio-recorders)

Television sets

Videocameras

Video recorders

Hi-fi recorders

Audio amplifiers

Musical instruments

And other products or equipment for the purpose of recording or reproducing sound or images,

including signals or other technologies for the distribution of sound and image than by

telecommunication

5. Lighting equipment

Luminaires for fluorescent lamps with the exception of luminaires in households

Straight fluorescent lamps

Compact fluorescent lamps

High intensity discharge lamps, including pressure

sodium lamps and metal halide lamps

Low pressure sodium lamps

Other lighting or equipment for the purpose of

spreading or controlling light with the exception of filament bulbs

6. Electrical and Electronic tools

Drills

Saws

Equipment for turning, milling, sanding, grinding, sawing, cutting, shearing, drilling, making

holes, punching, folding, bending or similar processing of wood, metal and other materials

Tools for riveting, nailing or screwing or removing rivets, nails, screws or similar uses

Tools for welding, soldering or similar use

Equipment for spraying, spreading, dispersing or other treatment of liquid or gaseous substances by other means

*Tools for **mowing or other gardening** activities*

Sewing machines

7. Toys

Electric trains or car racing sets

Hand-held video game consoles

Video games

Computers for biking, diving, running, rowing, etc.

Sports equipment with electric or electronic components

Coin slot machines

8. Medical equipment systems (with the exception of all implanted and infected products)

Radiotherapy equipment

Cardiology

Dialysis

Pulmonary ventilators

Other appliances for detecting, preventing, monitoring, treating, alleviating illness, injury or disability

Nuclear Medicine

Laboratory equipment for in-vitro diagnostic

Analizers

Freezers

Measuring, weighing or adjusting appliances for household or as laboratory equipment

9. Monitoring and control instruments

Smoke detector

Heating regulators

Thermostat

10. Automatic Dispensers

Automatic dispensers for hot drinks

Automatic dispensers for hot/cold, bottles/cans

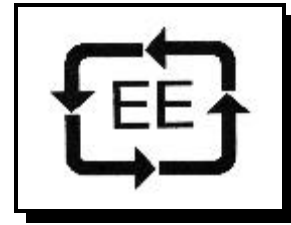
Automatic dispensers for solid products

Automatic dispensers for money

All appliances which deliver automatically all kind of products

Design Directive

A third directive, on electronics design, was also introduced, with a second draft issued in October. It specifies provisions for the design (but not, in the second draft, manufacture) of electrical and electronics equipment, and requires a conformity assessment and marking to show that the product has gone through the process. This “environmental assurance” would function much like the “essential requirements” of the packaging directive, requiring documentation of assessment procedures. Observers are not sure this directive has a chance of passing at the EC. Some say its fate could ultimately rest on what happens to the “essential requirements” for packaging.



Proposed conformity assessment symbol for electronics recycling.

The electronics directives will cost industry billions more - on top of the billions spent on the packaging directive. Just finding alternatives to lead solder will mean a multi-million-dollar re-design effort that must be coordinated worldwide. Technical experts say they can find no real environmental improvement in banning the lead and cadmium, as the amounts are so small. Major opponents of the electronics directives have been European appliance association Orgalime and the American Electronics Association (AEA), in addition to the Japan Business Council Europe. Moreover, there is a small group of large companies that want the opportunity to do individual takeback so they can benefit from their own “design for environment” initiatives.

ANALYSIS: If you look closely at what the Council of Ministers passed in 2001, then review the new amendments in April 2002, you will (after much study!) get some sense of how these directives might come out in the wash in 2003. Designers searching for some certainty will notice there are no real changes in the exemptions to the RoHS directive – but the MEP’s did indicate they might not be banning more materials if there alternatives are no more environmentally friendly. What could be costly to industry is the new clarification that it must also pay for recovery of all equipment from commercial and industrial customers as well.

It will be interesting to see what happens in conciliation committee on enforcement. Currently, most member states are NOT really enforcing the packaging directive! The new amendments would force this issue. On the one hand, such enforcement inspection at the border is costly and seems draconian – on the other hand, real enforcement might ensure there are fewer free riders, and that the full burden of enforcement will not be on the industry collection organizations.

Chris Pollet, a lobbyist with the Brussels law firm of White and Case (who represents Japanese interests) suggests it is possible the RoHS directive could be approved by the EC, which means it could become law before the WEEE directive.

Parliament Votes to Ban Octa- , Deca- and Penta-BDE's

(April, 2002 RLI)

EU Parliament members voted April 10 to phase out not only penta-BDE's (a type of brominated flame retardant) by 2003, but deca-BDE's and octa-BDE's by 2006 as well.

The European Brominated Flame Retardant Industry Panel issued a statement that while it has accepted the proposal to phase out penta-BDE's, (Used only in some foam furniture in the U.S.) they had hoped the EU would wait until risk assessments were completed first on the other two BDE's.

The amendments to the draft directive (which amends Council Directive 76/769/EEC) would restrict these three BFR's if they are more than .1% by mass of the product. The restriction on deca-BDE and octa-BDE's would take effect in 2006, and **would not go forward if the risk assessments showed there was not enough health risk.**

The European Commission and Council of Ministers have not favored banning all of the BFR's, only penta-BDE's, but observers say these amendments are likely to be accepted by the EC for full passage.

The risk assessments for the other BFR's are due soon, and industry is fairly confident they will show there is no real risk with using deca-BDE', according to Gary Ter Haar, vice president of Health and Environment for Albermarle Corp., which makes BFR's.

Meanwhile, provisions to restrict certain BFR's in electronics remain in the Restrictions on Hazardous Substances (RoHS) Directive, (moving with the WEEE directive) though a proposed amendment to extend the ban to all parts of the products and not just plastic was defeated.

-