



## 307: Hold the Phone! Import, Takeback, & End-of-Life Regulation of Products at Home & Abroad

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## Faculty Biographies

### Heather S. Bowman

Heather S. Bowman is the director of environmental affairs and deputy general counsel at the Electronic Industries Alliance ("EIA") in Arlington, Virginia. Her responsibilities include trade association compliance issues and managing EIA's Environmental Issues Council. Ms. Bowman has led the industry efforts on EIA's product ecology initiative, including advocacy at the state, federal, and international levels.

Prior to EIA, she worked for Stevens Law Office, a general practice law firm in Stowe, Vermont, and she continues to be a member of the Vermont Bar Association. Some of her other relevant experience includes working for the Department of Environmental Conservation in Raybrook, New York, as a legal intern focusing on environmental enforcement issues. She also worked on environmental issues for the Attorney General's office and the Office of Solid Waste at the Maryland Department of Environment, and served as clerk for the Honorable Nancy B. Shuger in Maryland's District Court.

Ms Bowman earned a BS from Plattsburgh State University, which included a semester of study at the W.H. Miner Research Institute. She graduated from Vermont Law School, where she was a first-year mentor, a member of the Student Bar Association, and a member of several environmental organizations on campus.

### Gregory J. Dana

Gregory J. Dana is the vice president, environmental affairs for the Alliance of Automobile Manufacturers. In this role, he is responsible for all federal and state environmental issues that affect vehicle design and automotive production facilities.

Prior to joining the alliance, Mr. Dana held the position of vice president and technical director of the Association of International Automobile Manufacturers ("AIAM"). In this position he handled environmental and vehicle safety issues for AIAM. Before then, Mr. Dana was employed by the Office of Mobile Sources at the U.S. Environmental Protection Agency. He worked both in the Ann Arbor, Michigan Emissions Laboratory and in the Washington D.C. headquarters for the Mobile Source Office Director.

Mr. Dana has remained active in community association work serving on the board of directors in his community for six years and serving as the chairperson of the Architectural Board for two years. He has also followed local land use and transportation issues in Fairfax County, Virginia. In addition, Mr. Dana plays guitar and banjo in a contemporary choir in his church.

Mr. Dana attended the University of Notre Dame and the University of Michigan and received his BS from the University of Michigan.

## Debra Sabatini Hennelly

Debra Sabatini Hennelly is vice president & general counsel of Integrity Interactive Corporation, which specializes in Internet-based corporate compliance and ethics programs.

Prior to this position, Ms Hennelly, was corporate counsel for regulatory and compliance at Avaya, where she developed and implemented a global, web-based ethics and compliance program. She also provided legal counsel for corporate compliance, including environmental, safety, global trade, antitrust, product registration, and other regulatory and policy issues. Prior to her role at Avaya, she served as corporate counsel for Lucent's Business Communications Systems, where she provided commercial legal support for various parts of the business, and as corporate counsel for environment and safety for Lucent and AT&T. Before joining AT&T, she practiced environmental law with Bryan Cave in Washington, DC, and with Riker, Danzig in Morristown, NJ. Originally trained as an engineer, Ms. Hennelly began her career as a construction and tank engineer for Exxon Company, USA.

Ms. Hennelly has written and lectured extensively on compliance issues and is currently chair of ACCA's Environmental Law Committee. She has been active for more than 10 years with the University of Virginia's Alumni Council. She is also a member of the board of trustees of the Electronic Industries Foundation, which fosters science and math education to help develop the technology workforce of the future.

Ms. Hennelly earned a BS, *magna cum laude*, from Duke University and a JD from the University of Virginia Law School.

## *Hold the Phone! Import, Take back, & End-of-Life Regulation of Products at Home & Abroad*



Heather S. Bowman  
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Director of Environmental  
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ACCA Conference – Course 307

October 8, 2003 4:00 – 5:30 PM

## Presentation Overview

- International environmental laws impacting the Electronics Sector
- Key developments
  - EU Directives
  - Asian Developments
  - Transboundary movement of electronic scrap
  - Internationalization of Energy Star
- United States regulations impacting the Electronics Sector
- Key developments
  - Proliferation of state legislation
  - US EPA projects
  - Basel Treaty

## Impact of New Regulations – entire life cycle

- Design: several restrictions on the use of certain substances in electronics
- Manufacture: traditional regulations restrict air and water emissions
- Sale: labeling, packaging, and notification requirements impede manufacturers' ability to market goods
- End of Life: Proposed end-of-life disposition mandates focus on electronics

## Key Elements

- 1 Require collection and proper management at end-of-life
- 2 Ban problematic chemicals from use in products
- 3 Require life cycle assessments when products are designed

Europe and parts of Asia in the lead;  
North America moving forward

## Key Developments – European Union

- EU Proposed **W**aste from **E**lectrical and **E**lectronic **E**quipment (WEEE) Directive
- EU Proposed **R**estriction on the use of **H**azardous **S**ubstances (RoHS) Directive
- EU Draft Impact on the **E**nvironment of **E**lectrical and **E**lectronic Equipment (EEE) Directive

## EU's WEEE Directive

- Manufacturers responsible for electronic “take-back”
- Applies to virtually all EE products
- Covers future products and “historic” waste
- EU Council and Parliament differed on responsibilities, therefore left for member country to decide
  - Collective vs. individual
  - Manufacturer vs. government
- States have begun and are allowed to enact more stringent mandated

## EU's RoHS Directive

- Bans Pb, Hg, and Cd, Cr (VI) and two flame retardants from electronics
- Exempts certain applications of restricted substances
  - Established procedure to exempt or add new substances
- No risk assessment of existing chemicals or alternatives performed before legislation
- Comitology process ongoing (reviewing exemption requests from chemical families) – exemptions expected – next meeting October 2003

## EU's Draft EUP Directive

- Would cover product design and energy use through standards and possibly still mandates lifecycle environment impact analysis of EEE
- “New Approach” directive: basic requirements set out, standards bodies create detailed standards
  - Standards nominally voluntary, de facto mandatory
- Redundant given WEEE, RoHS, and DfE?
- Impact on product performance, innovation and customer satisfaction
- Projected introduction is unclear

## Key Developments- Asia

- Waste minimization pressures resulting in product take-back and recycling initiatives in countries or territories with limited landfill space or limited availability of “environmentally sound” waste disposal sites (e.g., Taiwan, Japan, China)
- Many new environmental regulations and related initiatives in Asia affecting the electronics sector are ambitious in scope and present significant implementation challenges

## Country Developments- Asia

- People’s Republic of China: Draft Clean Production Law
  - Current draft requires that companies use non-toxic and non-hazardous or less-toxic and less-hazardous materials in place of toxic and hazardous materials
- Taiwan: Laws impose “recycling fees” on importers and manufacturers of covered products to support government take-back and recycling regime
- Japan: Specific Household Appliance Recycling Act includes televisions
  - Manufacturers are required to make sure that parts are recycled or reused and are required to register their recycling take-back “cycle” with the government.



## Transboundary Movement of Electronic Scrap

- OECD Waste Management Policy Working Group - considered more stringent waste listings for certain electronic scrap
- OECD Workshop on Environmentally Sound Management (ESM) of PCs - ESM definition will govern shipment and possibly disposal
- Free movement of electronic scrap is essential to development of international infrastructure for reuse and recycling

## Extended Producer Responsibility

- Countries continuing to explore EPR as viable option to shift economic burdens of managing used electronics to producers
- OECD Waste Management Policy Working Group – developed a guidance manual for governments
- OECD Workshop on Extended Producer Responsibility (EPR)- examples included several from countries implementing EPR for electronics such as Switzerland and Japan
- Industry advocates shared responsibility as only viable option – most efficient and cost effective

## Internationalization of Energy Star Program

- Energy Star - Government-industry partnership that sets energy efficiency specifications for computers, printers, VCRs, etc.
- Early 2001 EU adopted Energy Star for office equipment
  - New specifications must be approved by EU as well as US EPA – office equipment
  - Desire to set standards for electronics in active mode
- Other countries have adopted Energy Star (Canada, Australia)

## Evaluation of Models

- EIA and Manufacturers must evaluate the sustainability of the models proposed by legislation
- Factors include effectiveness, cost, responsibilities, liability, and consumer satisfaction
- Companies are having to manufacture to the most stringent standards – EIA helps companies with our EIATrack

## United States regulations impacting the Electronics Sector

### Environmental Issues facing the Electronic Industry

- Rechargeable Battery and Recycling Corporation – companies response to state legislation on rechargeable batteries
- New England Mercury Regulations – legislation passed to limit the use and distribution of products containing mercury
  - EIA mercury compliance tool assists companies in dealing with reporting and notification requirements
- CRT Glass –
  - Lead in glass matrix failed TCLP,
  - Legislation for producer responsibility
  - Regulations aimed to keep CRTs out of incinerators and landfills

## Proliferation of State Legislation

- Over 30 introductions of electronics recycling legislation – producer responsibly and recycling fees
- Submitted comments and/or testified on recycling legislation in several states (CA, FL, HI, MA, ME, MD, MI, MN, NY, NC, OR, RI, SC, TX, NE, NH, WA)
- Maine – passed a study committee bill and ban on disposal
- Minnesota – passed a ban on disposal – in budget bill
- California – as of July 23 – still considering legislation
- Massachusetts – as of July 23 – still considering legislation

## Concerns regarding State Action

- State Legislative Language:
  - Hazardous materials phase out – (a) no later than twelve (12) months following the effective date of this act, producers selling electronic equipment in Rhode Island must phase out the use of lead, mercury, cadmium, hexavalent chromium, brominated flame retardants, and polyvinyl chloride and only offer for sale products that contain less harmful alternatives.
- US- New England state mercury restrictions and notification
  - Introduction of procurement preferences based on green attributes

## US Environmental Protection Agency Projects

- **Design and Purchasing Phase**
  - Sustainable Electronics Design Initiative
  - Electronic Products Environmental Assessment Tool
  - Design for the Environment Projects (Computer Display and Lead free Solder)
  - E-Design Workshop
  - Testing Plastics from Used Electronics – Region 5
  - Federal Electronics Challenge

## US Environmental Protection Agency Projects

- **Use Phase**
  - Energy Star
- **End-of-Life Phase**
  - Plug-In To eCycling Campaign
  - National Electronics Product Stewardship Initiative (NEPSI)
  - TCLP Testing of Electronic Components (CPU, keyboard, peripherals)
  - Proposed CRT Rule
  - Rural Community Electronics Recycling Project
  - Evaluation of Cell Phone Reuse Programs

## US Implementation of the Basel Treaty

- Convention addresses the trans boundary movement of hazardous waste
- US has not passed implementing legislation
- Must be done at federal level
- As of July 2003 – Office of Management and Budget is reviewing the implementation language suggested by Departments of Commerce State and US EPA

## Contact Information

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AMENDED IN ASSEMBLY JULY 29, 2003

AMENDED IN SENATE JUNE 2, 2003

AMENDED IN SENATE MAY 21, 2003

AMENDED IN SENATE MAY 6, 2003

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**SENATE BILL****No. 20****Introduced by Senators Sher and Romero****(Principal coauthor: Senator Kuehl)**

(Principal coauthor: Assembly Member Jackson)

~~(Coauthor: Assembly Member Pavley)~~**(Coauthor: Senator Figueroa)***(Coauthors: Assembly Members Chu, Koretz, Leno, Levine, Lieber, Montanez, Pavley, and Wolk)*

December 2, 2002

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An act to add Article 11.7 (commencing with Section 25243) to Chapter 6.5 of Division 20 of the Health and Safety Code, and to add *Article 4 (commencing with Section 41516) to Chapter 3.5 of Part 2 of, and Chapter 8.5 (commencing with Section 42460) to Part 3 of, Division 30 of the Public Resources Code, relating to hazardous and solid waste.*

## LEGISLATIVE COUNSEL'S DIGEST

SB 20, as amended, Sher. Solid waste: hazardous electronic waste recovery, reuse, and recycling.

(1) Existing law prohibits the management of hazardous waste, except in accordance with the hazardous waste laws. Under existing law, the Department of Toxic Substances Control is authorized to exempt, until January 1, 2003, by regulation, a hazardous waste

management activity from the requirements of the hazardous waste control law if the regulation governs a specified type of hazardous waste, including electronic hazardous wastes, identifies the hazardous waste as a universal waste, and amends specified existing regulations of the department. Existing law prohibits the disposal of electronic products in or on land, except as specified. A violation of the hazardous waste control law is a crime.

The bill would require the Department of Toxic Substances Control to adopt regulations *by January 1, 2007, to prohibit the use of hazardous materials in the manufacture of hazardous electronic devices sold in the state, that would prohibit electrical and electronic equipment put on the market from containing chemicals that are prohibited in electrical and electronic equipment put on the market under Directive 2002/95/EC, as adopted by the European Parliament and the Council of the European Union on January 27, 2003.* The bill also would require the department to adopt regulations *by January 1, 2005, to prohibit the use of any electronic or mechanical device that prevents, impedes, or limits the reuse, remanufacture, or recycling of a hazardous electronic device, thereby imposing a state-mandated local program by creating a new crime.*

(2) Existing law requires the California Integrated Waste Management Board to administer state programs to recycle various specified materials.

This bill would enact the Hazardous Electronic Waste Recovery, Reuse, and Recycling Act of 2003. The bill would ~~prohibit any person from selling~~ *make it unlawful to sell* a hazardous electronic device in this state to a consumer, as defined, unless the board determines that the manufacturer of that device is in compliance with the act.

*The bill would require a manufacturer or retailer selling a hazardous electronic device in this state to collect an electronic waste collection fee from the consumer and to transmit the fee to the board in accordance with a schedule and procedures that the board would be required to establish. The bill would require the board, by January 1, 2006, and on or before January 1 of every second year thereafter, to establish, and adjust as needed, an electronics waste collection fee schedule for hazardous electronic devices sold in this state and would provide that from January 1, 2004, until January 1, 2006, the electronics waste collection fee would be set in an amount according to a specified fee schedule.*



*The bill would require each manufacturer of a hazardous electronic device sold in this state, by July 1, 2004, and at least once annually thereafter, to report to the board on the number of hazardous electronic devices sold by the manufacturer in this state during the previous calendar year and to make information available to consumers that describes where and how to return, recycle, and dispose of the hazardous electronic device and opportunities and locations for the collection or return of the device, through specified means.*

*The bill would require the board, by January 1, 2006, and each year thereafter, to establish annual recycling targets for hazardous electronic devices. The bill would require that, for calendar year 2006, the recycling targets for the amount of hazardous electronic devices recycled in the state equal 50% or more of the hazardous electronic devices sold in the state during the calendar year 2005. The bill would require a manufacturer of a hazardous electronic device, as defined, sold in the state to either establish and implement a hazardous electronic device ~~recovery~~ recycling system ~~that is~~ or to pay a electronic waste recycling fee. The bill would require the hazardous electronic device recycling system to be certified by the board for the ~~collection, handling, transportation~~ receipt, processing, ~~recovery, reuse,~~ and recycling of the hazardous electronic waste resulting from the devices sold by that manufacturer. The bill would require the hazardous electronic device recycling system to meet specified requirements, including meeting or exceeding the recovery targets established by the board.*

*The bill would require a manufacturer who elects to pay the electronic waste recycling fee to pay the fee for each hazardous electronic device produced by the manufacturer and sold to a purchaser in this state. The bill would require the board to establish, by January 1, 2005, and to revise as necessary, the electronic waste recycling fee schedule for hazardous electronic devices sold to purchasers in this state. The bill would require the board to base the electronic waste recycling fee on the net cost of an e-waste recycler to receive, process, and recycle a hazardous electronic device from an authorized collector, and to design the fee to generate sufficient funds to cover the net costs of recycling hazardous electronic waste projected to be generated in this state and make electronic waste recovery and recycling payments to electronic waste recyclers. ~~The~~*

*The bill would require a manufacturer of a hazardous electronic device that sells a hazardous electronic device in the state to notify the board of its intent to sell the device ~~and to prepare and submit to the~~*

~~board a hazardous electronic device recovery plan that meets specified standards. The bill would require a manufacturer that intends to export a hazardous electronic waste to provide the department with specified information.~~

The bill would impose civil liability for violations of specified provisions.

~~The bill would require the board to establish and impose a fee on a manufacturer of a hazardous electronic device that submits a plan for review to cover its reasonable costs of implementing the act. The bill would require a manufacturer of a hazardous electronic device who does not submit a recovery plan to the board, or who does not meet specified recovery and recycling targets, to instead pay a fee to the board, in a specified amount. The bill would require the board to deposit the fees collected under the act in the Hazardous Electronic Waste, Recovery, Reuse, and Recycling Account, which the bill would create in the Integrated Waste Management Fund in the State Treasury.~~

This bill would authorize the board to expend the moneys deposited in the account, upon appropriation by the Legislature, to ~~implement the act and, among other things, to provide recycling incentive payments to hazardous electronics material handlers, to make electronic waste recycling and recovery payments to electronic waste recyclers and to administer the act. The bill would authorize the board to expend any remaining funds in the account, upon appropriation by the Legislature, to provide grant funds to local governments and nonprofit agencies for the cleanup of electronic devices and programs for recycling hazardous electronic devices, to provide grants to nonprofit agencies to refurbish or recycle hazardous electronic devices, to provide financial incentives to manufacturers of these devices to assist in the recycling of the devices, and to establish public information programs on recycling of hazardous electronic devices.~~

*The bill would require the board to establish on January 1, 2004, and on January 1 every two years thereafter, an electronic waste recovery payment schedule to cover the net cost of an authorized collector in operating a free and convenient system for collecting, consolidating and transporting hazardous electronic wastes generated in this state and to establish an electronic waste recycling payment schedule to cover an e-waste recycler's net cost of receiving, processing, and recycling a hazardous electronic device from an authorized collector.*

*The bill would require the board to pay an e-waste recovery payment and an e-waste recycling payment to an electronic waste recycler, for*

*the hazardous electronic waste generated in this state that is collected and received by the e-waste recycler for recycling. The e-waste recycler would be require to transmit the e-waste recovery payment to an authorized collector or its designated consolidator, for all hazardous electronic waste generated in this state, that is collected and received by the e-waste recycler. The bill would allow an e-waste recycler to receive these payments only if the e-waste recycler meets specified eligibility requirements regarding the e-waste recycler's facilities and to make certain demonstrations if the e-waste recycler intends to export hazardous electronic waste to a foreign destination. The bill would authorize the board to adopt regulations to implement the bill.*

*(3) Existing law, the California Integrated Waste Management Act of 1989, requires the county or regional agency integrated waste management plan that a county or regional agency is required to submit to the board to contain a household hazardous waste element.*

*This bill would require, on and after January 1, 2004, that when a county or regional agency revises the county or regional integrated waste management plan and its elements, the city household hazardous waste element and county household hazardous waste element would be required to identify those actions the city, county, or regional agency is taking to promote the collection, consolidation, recovery, and recycling of hazardous electronic waste, thereby creating a state-mandated local program by imposing new duties upon local agencies.*

*(4) This bill would provide that its provisions are severable.*

~~(4)~~

*(5) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.*

*This bill would provide that no reimbursement is required by this act for a specified reason reasons.*

*Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.*

*The people of the State of California do enact as follows:*

1 SECTION 1. The Legislature finds and declares all of the  
2 following:

1 (a) Electronic waste ~~from hazardous electronic devices~~  
2 represents one of the fastest growing *and* hazardous components  
3 of California's waste stream.

4 (b) According to the United States Environmental Protection  
5 Agency, more than 4.3 million tons of appliances and consumer  
6 electronics were discarded in 1999.

7 (c) Due to the presence of toxic lead, mercury, or other  
8 hazardous or potentially hazardous materials in electronic waste,  
9 ~~these devices pose~~ *this waste poses* a particular threat to public  
10 health and the environment when improperly discarded.

11 (d) A study conducted by the California Integrated Waste  
12 Management Board estimates that California households currently  
13 have more than 6,000,000 obsolete computer monitors and  
14 television sets "stockpiled" in their homes.

15 (e) A study for the National Safety Council projects that more  
16 than 10,000 computers and televisions become obsolete in  
17 California every day. The study further projects that three-quarters  
18 of all computers ever purchased in the United States remain  
19 stockpiled in storerooms, attics, garages, or basements.

20 (f) It is estimated that only 20 percent of obsolete computers  
21 and televisions are currently recovered for recycling.

22 (g) ~~Hazardous electronic devices~~ *Electronic waste* recovered  
23 for recycling, including devices from California public agencies,  
24 ~~have~~ *has* been found to have been illegally handled and discarded  
25 in developing countries, posing a significant threat to public  
26 health, worker safety, and the environment in those countries.

27 (h) The collection, handling, and management of ~~hazardous~~  
28 ~~electronic devices that are~~ *electronic waste that is* currently  
29 recovered represents a costly and growing problem for local  
30 governments and nonprofit organizations, including Goodwill  
31 Industries and the Salvation Army.

32 (i) The high technology sector represents a vital and important  
33 part of California's economy.

34 (j) The system to reduce and recycle ~~hazardous electronic~~  
35 ~~devices~~ *electronic waste* established pursuant to this act should  
36 establish strict and enforceable requirements on all manufacturers  
37 of ~~hazardous~~ electronic devices while being cost-effective and  
38 providing flexibility to take advantage of the innovation of the  
39 high technology sector.

1 (k) The system should also ensure that the state will impose  
2 compliance obligations uniformly on all regulated entities to  
3 ensure that companies accepting their responsibilities are not  
4 penalized by the potential noncompliance of other companies.

5 (l) The system should also be scalable to national,  
6 international, and global systems to take into account obligations  
7 that may be imposed on manufacturers of hazardous electronic  
8 devices beyond those imposed under this act.

9 (m) *The system should ensure that economically viable and*  
10 *sustainable markets are developed and supported for recovered*  
11 *materials and components in order to conserve resources and*  
12 *maximize business and employment opportunities within*  
13 *California.*

14 (n) The Governor has requested that the Legislature enact  
15 legislation in 2003 challenging industries to assume greater  
16 responsibility for the recycling and disposal of electronic waste,  
17 stating that “California needs a comprehensive and innovative  
18 state law that partners with product manufacturers, establishes  
19 recycling targets, and provides for the safe recycling and disposal  
20 of electronic wastes.” The Governor further expressed support for  
21 a system that “provides incentives to design products that are less  
22 toxic and more recyclable.”

23 SEC. 2. Article 11.7 (commencing with Section 25243) is  
24 added to Chapter 6.5 of Division 20 of the Health and Safety Code,  
25 to read:

26  
27 Article 11.7. Phaseout of Hazardous Materials In Hazardous  
28 Electronic Devices

29  
30 25243. The Legislature finds and declares that it is in the  
31 interest of the state to establish a program modeled on the Product  
32 Stewardship Initiative undertaken by the European Economic  
33 Union to phase out the use of hazardous materials in the  
34 manufacture of hazardous electronic devices.

35 25243.5. For purposes of this article, the following  
36 definitions apply:

37 (a) “Hazardous electronic device” has the same meaning as  
38 defined in Section 42463 of the Public Resources Code.

39 (b) “Hazardous material” has the same meaning as defined in  
40 Section 25501.

1 25243.7. ~~On~~ *Notwithstanding any other provision of law, on*  
2 *or before January 1, 2007, the department shall adopt regulations*  
3 *establishing dates and procedures to prohibit the use of hazardous*  
4 *materials in the manufacture of a hazardous electronic device sold*  
5 *in the state by the earliest feasible date. that prohibit electrical and*  
6 *electronic equipment put on the market from containing the*  
7 *chemicals that are prohibited from being contained in electrical*  
8 *and electronic equipment put on the market under Directive*  
9 *2002/95/EC, adopted by the European Parliament and the*  
10 *Council of the European Union on January 27, 2003.*

11 25243.8 On or before January 1, 2005, the department shall  
12 adopt regulations prohibiting the use of an electronic or a  
13 mechanical device that prevents, impedes, or limits the reuse,  
14 remanufacture, or recycling of a hazardous electronic device.

15 SEC. 3. *Article 4 (commencing with Section 41516) is added*  
16 *to Chapter 3.5 of Part 2 of Division 30 of the Public Resources*  
17 *Code, to read:*

18

19 *Article 4. Hazardous Electronic Waste*

20

21 41516. (a) *For purposes of this article, "hazardous*  
22 *electronic waste" has the same meaning as defined in subdivision*  
23 *(1) of Section 42463.*

24 (b) *On and after January 1, 2004, when a county or regional*  
25 *agency revises the countywide or regional integrated waste*  
26 *management plan and its elements pursuant to Section 41770, the*  
27 *city household hazardous waste element and county household*  
28 *hazardous waste element in the plan shall identify those actions the*  
29 *city, county, or regional agency is taking to promote the collection,*  
30 *consolidation, recovery, and recycling of hazardous electronic*  
31 *waste.*

32 SEC. 4. *Chapter 8.5 (commencing with Section 42460) is*  
33 *added to Part 3 of Division 30 of the Public Resources Code, to*  
34 *read:*

35

1 CHAPTER 8.5. HAZARDOUS ELECTRONIC WASTE ~~RECOVERY,~~  
2 ~~REUSE, AND~~ RECYCLING

3  
4 Article 1. General Provisions

5  
6 42460. This act shall be known, and may be cited, as the  
7 Hazardous Electronic Waste ~~Recovery, Reuse, and~~ Recycling Act  
8 of 2003.

9 42461. The Legislature finds and declares all of the  
10 following:

11 (a) The purpose of this chapter is to enact a comprehensive and  
12 innovative system for the reuse, recycling, and proper and legal  
13 disposal of hazardous electronic devices, and to provide incentives  
14 to design electronic devices that are less toxic ~~and more~~  
15 ~~recyclable~~, *more recyclable, and that use recycled materials.*

16 (b) It is the further purpose of this chapter to enact a law that  
17 establishes a program that is cost free and convenient for  
18 consumers and the public to return, recycle, and ensure the safe  
19 and environmentally-sound disposal of hazardous electronic  
20 devices.

21 (c) It is the intent of the Legislature that the cost associated with  
22 the handling, recycling, and disposal of hazardous electronic  
23 devices is the responsibility of the producers and consumers of  
24 hazardous electronic devices, and not local government or their  
25 service providers, state government, or taxpayers.

26 (d) In order to reduce the likelihood of illegal disposal of these  
27 hazardous materials, it is the intent of this chapter to ensure that  
28 any cost associated with the proper management of hazardous  
29 electronic devices be internalized by the producers and consumers  
30 of hazardous electronic devices at or before the point of purchase,  
31 and not at the point of discard.

32 (e) Manufacturers of hazardous electronic devices, in working  
33 to achieve the goals and objectives of this chapter, should have the  
34 flexibility to partner with each other and with those public sector  
35 entities and business enterprises that currently provide collection  
36 and processing services to develop and promote a safe and  
37 effective hazardous electronic device ~~recovery, reuse, and~~  
38 recycling system for California.

1 (f) The producers of electronic products, components, and  
 2 devices should reduce and, to the extent feasible, ultimately phase  
 3 out the use of hazardous materials in those products.

4 (g) Electronic products, components, and devices, to the  
 5 greatest extent feasible, should be designed for extended life,  
 6 repair, and reuse.

7

8

## Article 2. Definitions

9

10 42463. For the purposes of this chapter, the following terms  
 11 have the following meanings, unless the context clearly requires  
 12 otherwise:

13 ~~(a) "Account" means the Hazardous Electronic Waste~~  
 14 ~~Recovery, Reuse, and Recycling Account created in the Integrated~~  
 15 ~~Waste Management Fund under Section 42476.~~

16 ~~(b)~~

17 (a) "Account" means the Electronic Waste Recovery and  
 18 Recycling Account created in the Integrated Waste Management  
 19 Fund under Section 42476.

20 (b) "Authorized collector" means any of the following:

21 (1) A city, county or district that collects hazardous electronic  
 22 devices.

23 (2) A person or entity that is required or authorized by a city,  
 24 county, or district to collect hazardous electronic devices pursuant  
 25 to the terms of a contract, license, permit, or other written  
 26 authorization.

27 (3) A non-profit organization that collects or accepts  
 28 hazardous electronic devices.

29 (4) A manufacturer or agent of the manufacturer that collects,  
 30 consolidates, and transports hazardous electronic devices for  
 31 recycling from consumers, businesses, institutions, and other  
 32 generators.

33 (5) Any entity that collects, handles, consolidates, and  
 34 transports hazardous electronic devices and has filed a  
 35 notification with the department pursuant to Article 7  
 36 (commencing with Section 66273.80) of Chapter 23 of Division  
 37 4.5 of Title 22 of the California Code of Regulations.

38 (c) "Board" means the California Integrated Waste  
 39 Management Board.

40 ~~(e)~~



1 (d) (1) "Consumer" means a purchaser or owner of a  
2 hazardous electronic device.

3 (2) (A) "Consumer" does not include a manufacturer who  
4 purchases specialty or medical electronic equipment that is a  
5 hazardous electronic device.

6 (B) For purposes of this paragraph, "medical electronic  
7 equipment" includes, but is not limited to, radiotherapy  
8 equipment, cardiology equipment, dialysis equipment, pulmonary  
9 ventilators, nuclear medicine equipment, laboratory equipment  
10 for in-vitro diagnosis, analyzers and freezers.

11 (C) For purposes of this paragraph "specialty electronic  
12 equipment" includes, but is not limited to, smoke detectors,  
13 heating regulators, and thermostats.

14 ~~(d)~~

15 (e) "Department" means the Department of Toxic Substances  
16 Control.

17 ~~(e) "Fee" means the hazardous electronics device recycling  
18 and recovery fee imposed by Section 42471.~~

19 ~~(f) "Hazardous electronic device" means any consumer  
20 product, component, or device that requires an alternating current  
21 or direct current electrical charge for operation and that the  
22 department determines is a hazardous material or a hazardous  
23 waste. A hazardous electronic device includes, but is not limited  
24 to, a television, video monitor, computer monitor, or any other  
25 device that has one or more cathode ray tubes containing lead.~~

26 ~~(g)~~

27 (f) "*Electronic waste collection fee*" or "*E-Waste collection  
28 fee*" means the electronic waste collection fee imposed pursuant  
29 to Article 3 (commencing with Section 42464).

30 (g) "*Electronic-waste recycling fee*" or "*E-waste recycling  
31 fee*" means the hazardous electronics device recycling fee imposed  
32 pursuant to Section 42471.

33 (h) "*Electronic waste recycler*" or "*E-waste recycler*" means  
34 any of the following:

35 (1) A person who engages in the manual or mechanical  
36 separation of hazardous electronic devices to recover components  
37 and commodities contained therein for the purpose of reuse or  
38 recycling.

39 (2) A person certified by the department who changes the  
40 physical or chemical composition of a hazardous electronic device

1 *by deconstructing, size reduction, crushing, cutting, sawing,*  
2 *compacting, shredding, or refining for purposes of segregating*  
3 *components, for purposes of recovering or recycling those*  
4 *components, and who arranges for the transport of those*  
5 *components to an end-user.*

6 (3) *A manufacturer with a hazardous electronic waste recycling*  
7 *plan certified by the board pursuant to this chapter.*

8 (i) *“Electronics waste recovery payment” or “E-waste*  
9 *recovery payment” means the amount established pursuant to*  
10 *Section 42477 and paid by the board to an electronics waste*  
11 *recycler pursuant to Section 42479, to be transmitted to the*  
12 *authorized collector, to cover the net cost of an authorized recycler*  
13 *to collect, consolidate, and transport hazardous electronic wastes*  
14 *generated in this state to the e-waste recycler.*

15 (j) *“Electronics waste recycling payment” or “E-waste*  
16 *recycling payment” means an amount established pursuant to*  
17 *Section 42478 and paid by the board to an electronics waste*  
18 *recycler pursuant to Section 42479 to cover the net cost of an*  
19 *e-waste recycler to receive, process, and recycle hazardous*  
20 *electronic waste from an authorized collector.*

21 (k) *“Hazardous electronic device” means a cathode ray tube,*  
22 *or cathode ray tube device or any other video display device that*  
23 *is greater than four inches in size and that the department*  
24 *determines, when discarded, would be a hazardous waste for*  
25 *purposes of Chapter 6.5 (commencing with Section 25100) of*  
26 *Division 20 of the Health and Safety Code.*

27 (l) *“Hazardous electronic waste” means a cathode ray tube, or*  
28 *cathode ray tube device or any other video display device that is*  
29 *greater than 4 inches in size and that the department determines*  
30 *is a hazardous waste pursuant to Chapter 6.5 (commencing with*  
31 *Section 25100) of Division 20 of the Health and Safety Code.*

32 (m) *“Hazardous material” has the same meaning as defined in*  
33 *Section 25501 of the Health and Safety Code.*

34 ~~(h)~~

35 (n) *“Manufacturer” means any person who manufactures a*  
36 *hazardous electronic device and sells that hazardous electronic*  
37 *device in this state.*

38 ~~(i)~~

1 (o) "Registrant" means the manufacturer, or an independent  
2 party that submits the plan required by Section 42468 instead of  
3 the manufacturer.

4 (p) "Retailer" means a person who sells a hazardous  
5 electronic device in the state to a consumer but who did not  
6 manufacture the device.

7  
8 Article 3. *Electronic Waste Collection and Consolidation Fee*

9  
10 42464. *The Legislature finds and declares all of the following:*

11 (a) *The cost of collection, consolidation, and recycling of*  
12 *electronic waste should be shared among consumers and the*  
13 *manufacturers of those devices.*

14 (b) *The cost of collection and consolidation of electronic waste*  
15 *should be covered through the imposition of a collection fee at the*  
16 *point of retail sale of a hazardous electronic device.*

17 42464.1. (a) (1) *A manufacturer or retailer selling a*  
18 *hazardous electronic device in this state that is subject to this*  
19 *chapter shall collect an electronic waste collection fee in the*  
20 *amount specified in subdivision (b) or (c), as applicable, from the*  
21 *consumer at the time and point of purchase in the amount*  
22 *established pursuant to this section. The fee shall be collected for*  
23 *all sales of hazardous electronic devices in this state, including,*  
24 *but not limited to, a sale made electronically, over the Internet,*  
25 *telephonically, or by any other means that results in a hazardous*  
26 *electronic device being transported or shipped into the state.*

27 (2) *The electronic waste collection fee collected pursuant to*  
28 *this section shall be transmitted to the board in accordance with*  
29 *a schedule and procedure that the board shall establish pursuant*  
30 *to Section 42475. The electronic waste collection fees shall be*  
31 *deposited in the account pursuant to Section 42476.*

32 (3) *A manufacturer or retailer selling a hazardous electronic*  
33 *device may retain 3 percent of the electronic waste collection fee*  
34 *as reimbursement for any costs associated with the collection of*  
35 *the fee.*

36 (b) *On or before January 1, 2006, and on or before January 1*  
37 *of every second year thereafter, the board shall establish, and*  
38 *adjust as needed, an electronics waste collection fee schedule for*  
39 *hazardous electronic devices sold in this state. The board shall*  
40 *establish the amount of the electronics waste collection fee at a*

1 level that is sufficient to generate revenues to make the e-waste  
2 recovery payments authorized pursuant to Section 42479, to cover  
3 the costs of an authorized collector for collecting, consolidating,  
4 and transporting hazardous electronic devices generated in this  
5 state, in a manner that is cost-free and convenient to consumers.

6 (c) On and after January 1, 2004, and on and before December  
7 31, 2005, the electronics waste collection fee shall be collected in  
8 the following amounts:

9 (1) Three dollars (\$3) for each hazardous electronic device  
10 with a screen size of less than 12 inches measured diagonally.

11 (2) Five dollars (\$5) for each hazardous electronic device with  
12 a screen size greater than or equal to 12 inches but less than 20  
13 inches measured diagonally.

14 (3) Seven dollars (\$7) for each hazardous electronic device  
15 with a screen size greater than or equal to 20 inches but less than  
16 28 inches measured diagonally.

17 (4) Nine dollars (\$9) for each hazardous electronic device with  
18 a screen size greater than or equal to 28 inches but less than 35  
19 inches measured diagonally.

20 (5) Ten dollars (\$10) for each hazardous electronic device with  
21 a screen size greater than 35 inches measured diagonally.

22 (6) Notwithstanding paragraphs (1) to (5), inclusive, three  
23 dollars (\$3) for each laptop or notebook personal computer that  
24 is a hazardous electronic device.

25

#### 26 Article 3- 4. Manufacturer Responsibility

27

28 42465. (a) ~~A person may not~~ *It shall be unlawful to* sell a  
29 hazardous electronic device to a consumer in this state unless the  
30 board determines the manufacturer of that hazardous electronic  
31 device demonstrates compliance with this chapter ~~by either~~  
32 ~~establishing and implementing a system certified by the board~~  
33 ~~pursuant to Section 42467 or paying a fee pursuant to Section~~  
34 ~~42471.~~

35 (b)

36 42465.1. On and after January 1, 2005, a person may not sell  
37 or offer for sale in this state a hazardous electronic device unless  
38 the device is labeled with the name of the manufacturer or the  
39 manufacturer's brand label, so that it is readily visible.

1 ~~42466. (a) On or after July 1, 2006, if the board determines~~  
2 ~~that the recovery and recycling targets set forth in subdivision (b)~~  
3 ~~are not being met by a manufacturer or registrant of a hazardous~~  
4 ~~electronic device, the manufacturer shall comply with Section~~  
5 ~~42471 until the board determines that the hazardous electronic~~  
6 ~~device recovery system implemented pursuant to a hazardous~~  
7 ~~electronic device recovery plan certified by the board pursuant to~~  
8 ~~Section 42469 is meeting the targets.~~

9 ~~(b) A hazardous electronic device recovery system established~~  
10 ~~pursuant to Section 42467 and a hazardous electronic device~~  
11 ~~recovery plan prepared pursuant to Section 42468, except as~~  
12 ~~specified in subdivision (c), shall conform with the following~~  
13 ~~recovery and recycling targets:~~

14 ~~(1) On and after January 1, 2005, a manufacturer or registrant~~  
15 ~~is responsible for arranging or otherwise ensuring that an amount~~  
16 ~~of hazardous electronic waste equivalent to not less than 50 percent~~  
17 ~~of the hazardous electronic devices sold by that manufacturer in~~  
18 ~~the state in the previous year is diverted from waste disposal and~~  
19 ~~recovered for reuse or recycling.~~

20 ~~(2) On and after January 1, 2007, a manufacturer or registrant~~  
21 ~~is responsible for arranging or otherwise ensuring that an amount~~  
22 ~~of hazardous electronic waste equivalent to not less than 70 percent~~  
23 ~~of the hazardous electronic devices sold by that manufacturer in~~  
24 ~~the state in the previous year is diverted from waste disposal and~~  
25 ~~recovered for reuse or recycling.~~

26 ~~(3) On and after January 1, 2010, a manufacturer or registrant~~  
27 ~~is responsible for arranging or otherwise ensuring that an amount~~  
28 ~~of hazardous electronic waste equivalent to not less than 90 percent~~  
29 ~~of the hazardous electronic devices sold by that manufacturer in~~  
30 ~~the state in the previous year is diverted from waste disposal and~~  
31 ~~recovered for reuse or recycling.~~

32 ~~(c) The board may either increase or decrease the recovery and~~  
33 ~~recycling targets in subdivision (b) based on a determination of the~~  
34 ~~projected volume of obsolete hazardous electronic devices.~~

35 ~~(d) Notwithstanding the recovery and recycling targets in~~  
36 ~~subdivision (b), state and federal regulations prohibit the disposal~~  
37 ~~of hazardous electronic waste in solid waste disposal facilities and~~  
38 ~~it is the intent of the Legislature that all hazardous electronic waste~~  
39 ~~is managed in accordance with all applicable laws, regulations,~~  
40 ~~and ordinances.~~

1 42465.2. *On or before July 1, 2004, and at least once annually*  
2 *thereafter as determined by the board, each manufacturer of a*  
3 *hazardous electronic device sold in this state shall do both of the*  
4 *following:*

5 (a) *Report to the board the number of hazardous electronic*  
6 *devices sold by the manufacturer in this state during the previous*  
7 *calendar year.*

8 (b) *Make information available to consumers, that describes*  
9 *where and how to return, recycle, and dispose of the hazardous*  
10 *electronic device and opportunities and locations for the*  
11 *collection or return of the device, through the use of a toll-free*  
12 *telephone number, Internet Web site, and information labeled on*  
13 *the device, included in the packaging, or accompanying the sale*  
14 *of the hazardous electronic device.*

15 42466. (a) *Except as specified in subdivision (b), on and after*  
16 *January 1, 2006, and each year thereafter, the board shall*  
17 *establish annual recycling targets for hazardous electronic*  
18 *devices. In implementing this section, the board shall do all of the*  
19 *following:*

20 (1) *Design and adopt recycling targets to establish a specific*  
21 *and measurable set of standards of overall program success and*  
22 *individual manufacturer accountability for a manufacturer's*  
23 *electronics recycling plans.*

24 (2) *Develop and adopt recycling targets, with input from*  
25 *manufacturers, retailers, electronic waste recyclers, and*  
26 *collectors, that reflect projections of hazardous electronic device*  
27 *sales, rates of obsolescence, and stockpiles.*

28 (3) *Develop and adopt recycling targets that achieve the*  
29 *elimination of hazardous electronic device stockpiles and legacy*  
30 *devices by the end of the year 2007 and end the illegal disposal of*  
31 *hazardous electronic devices.*

32 (b) *For the calendar year 2006, the recycling targets for the*  
33 *amount of hazardous electronic devices recycled in the state shall*  
34 *equal 50 percent or more of the hazardous electronic devices sold*  
35 *in the state during the calendar year 2005.*

36 (c) *Notwithstanding the recycling targets established pursuant*  
37 *to this section, to the extent that any federal and state law or*  
38 *regulation or local ordinance prohibits the disposal of hazardous*  
39 *electronic waste at a solid waste disposal facility, hazardous*

1 *electronic waste shall be managed in accordance with those*  
2 *applicable laws, regulations, and with all other ordinances.*

3 42467. (a) Except as provided in Section 42471, a  
4 manufacturer of a hazardous electronic device sold in the state  
5 shall establish and implement a hazardous electronic device  
6 ~~recovery system that is certified by the board pursuant to this~~  
7 ~~article for the collection, handling, transportation, processing,~~  
8 ~~recovery, reuse, and recycling of the hazardous electronic waste~~  
9 *recycling system that is certified by the board pursuant to this*  
10 *article for the receipt, processing, and recycling of the hazardous*  
11 *electronic waste that results from the hazardous electronic device*  
12 *sold by that manufacturer.*

13 (b) A manufacturer of a hazardous electronic device that sells  
14 a hazardous electronic device in this state shall notify the board of  
15 its intent to sell a hazardous electronic device.

16 (c) Any manufacturer or registrant that intends to export  
17 hazardous electronic waste to a foreign destination shall comply  
18 with all of the following prior to export:

19 (1) Notify the department of the contents, volume, and  
20 destination of the proposed export.

21 (2) Demonstrate that hazardous electronic waste will be  
22 handled in a manner that is at least as protective of public health  
23 and the environment as the laws, regulations, and ordinances  
24 applicable to the recycling and disposal of these devices in this  
25 state.

26 (3) Demonstrate that the importation of hazardous electronic  
27 waste is not prohibited by any applicable law or regulation of the  
28 country of destination.

29 (4) *Demonstrate that the hazardous electronic waste is being*  
30 *exported for the purposes of reuse or recycling.*

31 (d) In order to minimize costs and confusion in developing a  
32 hazardous electronic device recovery system under this section,  
33 manufacturers and registrants are encouraged to coordinate with  
34 and, to the extent feasible, support the utilization of any existing  
35 public and private systems for the collection, handling,  
36 transportation, processing, recovery, reuse, and recycling of  
37 hazardous electronic waste.

38 (e) A city, county, or public agency may not require consumers  
39 to use a system required under this section to recycle hazardous  
40 electronic devices to the exclusion of other programs legally

1 available. This chapter anticipates that hazardous electronic  
2 device recovery systems in addition to those provided by  
3 manufacturers and registrants under this section may be available  
4 to consumers in the state. Nothing in this chapter is deemed to  
5 prohibit or restrict any other system or to prohibit or restrict any  
6 other person from receiving, storing, transporting, or recycling  
7 hazardous electronic devices.

8 42468. (a) Except as provided in Section 42471, a  
9 manufacturer or a registrant of a hazardous electronic device sold  
10 in the state shall prepare and submit to the board a hazardous  
11 ~~electronic device recovery plan to establish a hazardous electronic~~  
12 ~~device recovery system that meets all of the following standards:~~

13 ~~(1) The plan demonstrates that it will result in the efficient~~  
14 ~~collection, handling, transportation, processing, recovery, reuse,~~  
15 ~~and recycling of hazardous electronic waste that results from the~~  
16 ~~hazardous electronic device sold by that manufacturer in this state~~  
17 ~~in a manner that is cost free to consumers.~~

18 ~~(2) The plan demonstrates that the manufacturer or registrant~~  
19 ~~will provide either directly, or through contracts or other binding~~  
20 ~~arrangements with other parties as retailers, local governments, or~~  
21 ~~private waste collection companies, one or more opportunities for~~  
22 ~~the consumer to return the hazardous electronic devices for~~  
23 ~~recovery, reuse, and recycling in a manner that is at least as~~  
24 ~~convenient to the consumer as the purchase and delivery of new~~  
25 ~~hazardous electronic devices through one or more of the following~~  
26 ~~mechanisms:~~

27 ~~(A) The return of the hazardous electronic device at a location~~  
28 ~~where the device is sold.~~

29 ~~(B) The mailing or shipping of the hazardous electronic device~~  
30 ~~to a recycling or recovery facility, including, but not limited to, a~~  
31 ~~facility owned or operated by a manufacturer of these devices.~~

32 ~~(C) The curbside collection or pickup of the hazardous~~  
33 ~~electronic device from the consumer.~~

34 ~~(D) The dropoff of the hazardous electronic device at a~~  
35 ~~conveniently located recycling or recovery facility. *electronic*~~  
36 ~~*waste recycling plan for a hazardous electronic device recycling*~~  
37 ~~*system that meets all of the following conditions:*~~

38 ~~(1) The plan demonstrates that the hazardous electronic device~~  
39 ~~recycling system will result in the safe and efficient receipt,~~  
40 ~~processing, and recycling of hazardous electronic waste generated~~



1 *in this state from authorized collectors and other sources at no cost*  
2 *to consumers and authorized collectors and is capable of meeting*  
3 *the recycling targets established pursuant to Section 42466.*

4 (2) *The plan includes a signed certification that any facility*  
5 *utilized by the manufacturer or registrant for the handling,*  
6 *processing, refurbishment, or recycling of a hazardous electronic*  
7 *devices meets all of the following standards:*

8 (A) *The facility has been inspected by the department or the*  
9 *Certified Unified Program Agency, as defined in Section 25404 of*  
10 *the Health and Safety Code, and has been found to be operating*  
11 *in compliance with all applicable laws, regulations, and*  
12 *ordinances.*

13 (B) *The facility is accessible during normal business hours for*  
14 *inspection by state or local regulatory agencies.*

15 (C) *The facility meets or exceeds the standards specified in*  
16 *Chapter 1 (commencing with Section 1171) of Part 4 of Division*  
17 *2, Division 4 (commencing with Section 3200), and Division 5*  
18 *(commencing with Section 6300), of the Labor Code or, if all or*  
19 *part of the work is to be performed in another state, the equivalent*  
20 *requirements of that state.*

21 (3) *The plan demonstrates that the manufacturer or registrant*  
22 *of the hazardous electronic device will make available information*  
23 *to every consumer through the use of a toll-free telephone number,*  
24 *Internet Web site, and information either labeled on the device,*  
25 *included in the packaging, or accompanying the sale of the*  
26 *hazardous electronic device, that describes where and how to*  
27 *return, recycle, and dispose of the hazardous electronic device and*  
28 *opportunities and locations for the collection or return of the*  
29 *device.*

30 (4) *The plan demonstrates that all collection, handling,*  
31 *transportation, dismantling, processing, refurbishment, and*  
32 *recycling of the hazardous electronic device will be done safely*  
33 *and in conformance with all applicable laws, regulations, and*  
34 *ordinances.*

35 (5) *The plan demonstrates that hazardous electronic waste*  
36 *recovered may not be disposed in violation of any applicable law,*  
37 *regulation, or ordinance.*

38 (6) *The plan demonstrates that hazardous electronic devices*  
39 *sent to a foreign destination will be handled in a manner that is at*  
40 *least as protective of public health and the environment as the laws,*

1 regulations, and ordinances applicable to the recycling and  
2 disposal of these devices in this state and ensures that no hazardous  
3 electronic device will be exported to any country where the  
4 importation of hazardous waste is prohibited.

5 (7) The plan demonstrates the capability of meeting or  
6 ~~exceeding the recovery targets specified in Section 42466.~~  
7 *exceeding the recovery targets established by the board pursuant*  
8 *to subdivision (a) of Section 42466 or specified in subdivision (b)*  
9 *of Section 42466.*

10 (8) *The plan may include contracts, service agreements, lease*  
11 *agreements, or any other information that demonstrates that the*  
12 *manufacturer or registrant has binding agreements for accepting*  
13 *or otherwise taking back and recycling hazardous electronic*  
14 *devices from commercial, governmental, or other institutional*  
15 *customers.*

16 (b) If the registrant changes the system that has been submitted  
17 to the board, before the change can become effective, the registrant  
18 shall submit the changed system to the board and revise its Internet  
19 Web site and toll-free telephone information to be consistent with  
20 the changed system.

21 (c) The registrant that receives a hazardous electronic device  
22 for recycling, refurbishment, or reuse may either recycle,  
23 refurbish, or reuse, including resell, the hazardous electronic  
24 device. Except to the extent otherwise required by law, the  
25 manufacturer and registrant do not have responsibility for any data  
26 that may be on the hazardous electronic device if an information  
27 storage device is included with the hazardous electronic device.

28 (d) Once per calendar year, each registrant shall file a report  
29 with the board that describes the implementation of the system  
30 during the year. The report shall identify the total number of  
31 hazardous electronic devices received during the preceding year,  
32 together with the total number of devices reused or refurbished for  
33 reuse, and the total number of devices recycled or resold. The  
34 report shall also describe the processes and methods used to  
35 recycle, refurbish, or reuse the hazardous electronic devices and,  
36 in particular, the report shall identify any disassembly, physical  
37 recovery operation including, but not limited to, for, crushing,  
38 grinding, or glass to glass recycling, or other operation that was  
39 used, and describe where it took place.

1 42469. (a) Within 90 days of the date that the board receives  
2 a hazardous electronic device ~~recovery~~ *recycling* plan submitted  
3 pursuant to Section 42468, the board shall review, identify, and  
4 suggest amendments, and certify or disapprove the plan at a duly  
5 noticed public hearing.

6 (b) The board shall certify a hazardous electronic device  
7 ~~recovery~~ *recycling* plan only if the board determines there is  
8 substantial evidence in the record that the plan will comply with  
9 all of the standards established pursuant to Section 42468 and be  
10 implemented in accordance with those standards.

11 (c) The board shall establish a schedule for the review and  
12 action on a hazardous electronic device ~~recovery~~ *recycling* plan to  
13 ensure the consistent, timely, and thorough review of each plan  
14 submitted pursuant to this article.

15 ~~(d) The board shall establish and impose a fee on a~~  
16 ~~manufacturer of a hazardous electronic device that submits a plan~~  
17 ~~for review pursuant to this article to cover the board's reasonable~~  
18 ~~costs of implementing this chapter.~~

19 42470. A registrant may partner with one or more  
20 manufacturers or other parties, as a collective registrant, to prepare  
21 and submit to the board a joint hazardous electronic device  
22 ~~recovery~~ *recycling* plan to comply with Section 42468.

23 42471. (a) As an alternative to complying with Section  
24 42468, a manufacturer of a hazardous electronic device may remit  
25 ~~to the board a hazardous electronics waste device, recycling, and~~  
26 ~~recovery to the board the electronic waste recycling fee~~ on each  
27 hazardous electronic device sold by the manufacturer in the state.

28 ~~(b) The board shall calculate the amount of the fee required to~~  
29 ~~be paid by a manufacturer pursuant to this section by subtracting~~  
30 ~~the average scrap value, including any negative scrap value, of the~~  
31 ~~hazardous electronic device sold by that manufacturer, or the~~  
32 ~~hazardous waste disposal cost of that device, from the average cost~~  
33 ~~of collecting, processing, and recycling the hazardous electronic~~  
34 ~~scrap, as determined by the board.~~

35 ~~(c) The hazardous electronics waste device, recycling, and~~  
36 ~~recovery fee shall be paid to entities for the collection, processing,~~  
37 ~~and recycling of hazardous electronic waste, in a form and manner~~  
38 ~~determined by the board.~~

39 *(b) On and after January 1, 2005, a manufacturer who elects*  
40 *to pay the electronic waste recycling fee shall pay the fee pursuant*

1 to this section for each hazardous electronic device produced by  
2 the manufacturer and sold to a purchaser in this state.

3 (c) On January 1, 2005, and annually thereafter, the board  
4 shall establish and revise as necessary an electronic waste  
5 recycling fee schedule for hazardous electronic devices sold to  
6 purchasers in this state.

7 (d) The board shall base the amount of the electronic waste  
8 recycling fee on the net cost of an e-waste recycler to receive,  
9 process, and recycle a hazardous electronic device from an  
10 authorized collector, and shall design the fee to generate sufficient  
11 funds to make the electronic waste recycling payments pursuant to  
12 Section 42479, in an amount that covers the net cost of an  
13 electronic waste recycler to receive, process and recycle the  
14 hazardous electronic waste projected to be generated in this state.

15 (e) A manufacture who elects to pay the electronic waste  
16 recycling fee shall pay the fee for any sale of a hazardous electronic  
17 device produced by the manufacturer, including, but not limited to,  
18 a sale made electronically, over the Internet, telephonically, or by  
19 any other means that result in a hazardous electronic device being  
20 shipped to or used in this state.

21 (f) Except as provided otherwise pursuant to subdivision (g),  
22 the fees required to be paid pursuant to this section shall be  
23 transmitted to the board in accordance with a schedule and  
24 procedure to be established by the board pursuant to Section  
25 42475.

26 (g) The board may collect the fees imposed pursuant to this  
27 section pursuant to the Fee Collection Procedures Law (Part 30  
28 commencing with Section 55001) of Division 2 of the Revenue and  
29 Taxation Code). The board may contract with the State Board of  
30 Equalization or another party for collection of one or more of the  
31 fees due under this section.

32 (h) The electronic waste recycling fees collected pursuant to  
33 this section shall be deposited in the account established pursuant  
34 to Section 42476.

35 42472. The imposition of a ~~hazardous~~ an electronics waste  
36 ~~device, recycling, and recovery fee pursuant to Section 42471 is~~  
37 ~~collection fee and electronic waste recycling fee~~ is a matter of  
38 statewide interest and concern and is applicable uniformly  
39 throughout the state. A city, county, city and county, or other  
40 public agency may not adopt, implement, or enforce an ~~ordinance~~;

1 ~~resolution, regulation, or rule establishing a hazardous electronics~~  
2 ~~device recycling and recovery fee unless expressly authorized~~  
3 ~~under this chapter. This section does not prohibit the adoption,~~  
4 ~~implementation, or enforcement of any local ordinance,~~  
5 ~~resolution, regulation, or rule governing curbside or dropoff~~  
6 ~~recycling programs operated by, or pursuant to a contract with, a~~  
7 ~~city, county, city and county, or other public agency, including~~  
8 ~~actions relating to fees for these programs: ordinance, resolution,~~  
9 ~~regulation, or rule requiring a consumer, manufacturer, or retailer~~  
10 ~~to recycle hazardous electronic devices or imposing an electronic~~  
11 ~~waste collection fee or electronic waste recycling fee upon a~~  
12 ~~manufacturer, retailer, or consumer, unless expressly authorized~~  
13 ~~under this chapter.~~

14 42473. The Legislature declares that the imposition of a  
15 ~~hazardous electronics device recycling and recovery fee pursuant~~  
16 ~~to Section 42471~~ *electronic waste collection fee and an electronic*  
17 *waste recycling fee* would not result in the imposition of a tax  
18 within the meaning of Article XIII A of the California  
19 Constitution, because the amount and nature of the fee has a fair  
20 and reasonable relationship to the adverse environmental burdens  
21 imposed by the disposal of hazardous electronic devices and there  
22 is a sufficient nexus between the fee imposed and the use of those  
23 fees to support the recycling and reuse of these devices.

24 42474. (a) Civil liability in an amount of up to two thousand  
25 five hundred dollars (\$2,500) per offense may be administratively  
26 imposed by the board for each sale of a hazardous electronic device  
27 ~~not covered either by a hazardous electronic device recovery~~  
28 ~~system certified by the board under Section 42467, or by a~~  
29 ~~hazardous electronics waste device, recycling, and recovery fee~~  
30 ~~paid in lieu of the recovery system requirement of Section 42467,~~  
31 ~~as defined in Section 42471: for which an electronic waste~~  
32 ~~collection fee has not been paid pursuant to Section 42464.1 or~~  
33 ~~which is either not covered by a hazardous electronic device~~  
34 ~~recycling system certified by the board pursuant to Section 42467~~  
35 ~~or for which the electronic waste recycling fee has been paid~~  
36 ~~pursuant to Section 42471.~~

37 (b) A civil penalty in an amount of up to five thousand dollars  
38 (\$5,000) per offense may be imposed by a superior court for each  
39 ~~sale of a hazardous electronic device not covered either by a~~  
40 ~~hazardous electronic device recovery system certified by the board~~

1 ~~under Section 42467, or by a hazardous electronics waste device,~~  
2 ~~recycling, and recovery fee paid in lieu of the recovery system~~  
3 ~~requirement of Section 42467, as described under Section 42471.~~  
4 *sale of a hazardous electronic device for which an electronic waste*  
5 *collection fee has not been paid pursuant to Section 42464.1 or*  
6 *which is either not covered by a hazardous electronic device*  
7 *recycling system certified by the board pursuant to Section 42467*  
8 *or for which the electronic waste recycling fee has been paid*  
9 *pursuant to Section 42471.*

10 (c) Civil liability in an amount of up to twenty-five thousand  
11 dollars (\$25,000) may be administratively imposed by the board  
12 against manufacturers or registrants for failure to comply with  
13 Section 42465, 42467, 42468, or 42471.

14

15 Article ~~4~~. 5. Administration

16

17 42475. (a) The board shall administer this chapter in  
18 consultation with the department.

19 (b) The board may adopt any regulations pursuant to Chapter  
20 3.5 (commencing with Section 11340) of Part 1 of Division 3 of  
21 Title 2 of the Government Code that are necessary to implement  
22 this chapter.

23 (c) The board shall adopt regulations pursuant to Chapter 3.5  
24 (commencing with Section 11340) of Part 1 of Division 3 of Title  
25 2 of the Government Code that ensure the protection of any  
26 proprietary information submitted to the board by a manufacturer  
27 of hazardous electronic devices.

28 (d) The board may prepare, publish, or issue any materials that  
29 the board determines to be necessary for the dissemination of  
30 information concerning the activities of the board under this  
31 chapter.

32 (e) In carrying out this chapter, the board may solicit and use  
33 any and all expertise available in other state agencies, including,  
34 but not limited to, the department, the Department of  
35 Conservation, and the State Board of Equalization.

36

37 Article ~~5~~. — Financial Provisions

38

39 ~~42476. — (a) The board shall deposit any fees or fines collected~~  
40 ~~under this chapter into the Hazardous Electronic Waste Recovery,~~

1 ~~Reuse, and Recycling Account which is hereby created in the~~  
2 ~~Integrated Waste Management Fund. The funds in the Hazardous~~  
3 ~~Electronic Waste Recovery, Reuse, and Recycling Account may~~  
4 ~~be expended by the board, upon appropriation by the Legislature,~~  
5 ~~for the purposes of implementing this chapter and for the~~  
6 ~~following purposes:~~

7 ~~(1) To provide recycling incentive payments to hazardous~~  
8 ~~electronics material handlers that collect and process hazardous~~  
9 ~~electronics and hazardous electronic devices, if those facilities~~  
10 ~~comply with all of the applicable provisions of Sections 66273.80~~  
11 ~~to 66273.90, inclusive, of Title 22 of the California Code of~~  
12 ~~Regulations.~~

13 ~~(2) To provide grant funds to local governments for the cleanup~~  
14 ~~of illegally dumped hazardous electronic devices and to establish~~  
15 ~~and maintain local programs that supplement private sector~~  
16 ~~programs pursuant to Section 42467 for the convenient and~~  
17 ~~cost-effective collection and recycling of hazardous electronics~~  
18 ~~and hazardous electronic devices.~~

19 ~~(3) To provide grants to nonprofit agencies that accept for~~  
20 ~~recycling hazardous electronics and hazardous electronic devices.~~

21 ~~(4) To provide financial incentives to manufacturers of~~  
22 ~~hazardous electronic devices to encourage consumers to return the~~  
23 ~~devices for processing, or recycling, and to assist manufacturers~~  
24 ~~in collecting, processing, or recycling hazardous electronic~~  
25 ~~devices.~~

26 ~~(5) To establish a public information program to educate the~~  
27 ~~public on the hazards of improper hazardous electronic device~~  
28 ~~storage and disposal and on the opportunities to recycle hazardous~~  
29 ~~electronic devices. Not more than one percent of funds in the~~  
30 ~~account may be used for the purpose of implementing this~~  
31 ~~paragraph.~~

32 ~~(6) To provide funding to the department to implement and~~  
33 ~~enforce Chapter 6.5 (commencing with Section 25100) of~~  
34 ~~Division 20 of the Health and Safety Code, as that chapter relates~~  
35 ~~to hazardous electronic devices, and any regulations adopted by~~  
36 ~~the department pursuant to that chapter.~~

37 ~~(b) The board may not provide any grant or payment for~~  
38 ~~hazardous electronic devices unless the materials will be handled~~  
39 ~~in compliance with all statutes and regulations regarding the~~  
40 ~~export of hazardous wastes. No grant or payment may be made for~~

1 ~~hazardous electronic devices exported to any country where the~~  
2 ~~export of hazardous waste is prohibited.~~

3  
4 ~~Article 6. State Agency Procurement~~

5  
6  
7 *Article 6. Financial Provisions*

8  
9 *42476. (a) The board shall deposit all fees or fines collected*  
10 *under this chapter into the Electronic Waste Recovery and*  
11 *Recycling Account, which is hereby created in the Integrated*  
12 *Waste Management Fund. The funds in the Electronic Waste*  
13 *Recovery and Recycling Account may be expended by the board,*  
14 *upon appropriation by the Legislature, for the following purposes:*

15 *(1) To make electronic waste recovery payments to an*  
16 *authorized collector of hazardous electronics waste pursuant to*  
17 *Section 42479.*

18 *(2) To make electronic waste recycling payments to a certified*  
19 *electronic waste recyclers of hazardous electronics wastes*  
20 *pursuant to Section 42479.*

21 *(3) To provide for costs of the board and the department to*  
22 *administer this chapter.*

23 *(4) To provide funding to the department to implement and*  
24 *enforce Chapter 6.5 (commencing with Section 25100) of Division*  
25 *20 of the Health and Safety Code, as that chapter relates to*  
26 *hazardous electronic devices, and any regulations adopted by the*  
27 *department pursuant to that chapter.*

28 *(b) If, after the board allocates the amount authorized to be*  
29 *expended pursuant to subdivision (a), there is any balance*  
30 *remaining in the Electronic Waste Recovery and Recycling*  
31 *Account, the board may expend the specified portion of any*  
32 *projected balance, upon appropriation by the Legislature, for the*  
33 *following purposes:*

34 *(1) To provide grant funds to local governments for the cleanup*  
35 *of hazardous electronic devices that are disposed of in violation of*  
36 *applicable state and local laws, ordinance and regulations, and to*  
37 *establish and maintain local programs for the convenient and free*  
38 *collection and recycling of hazardous electronics and hazardous*  
39 *electronic devices.*



1 (2) To provide grants to nonprofit agencies that accept  
2 hazardous electronic devices for refurbishing or recycling.

3 (3) To provide financial incentives to manufacturers of  
4 hazardous electronic devices to encourage consumers to return the  
5 devices for processing, or recycling, and to assist manufacturers  
6 in collecting, processing, or recycling hazardous electronic  
7 devices.

8 (4) To establish a public information program to educate the  
9 public on the hazards of improper hazardous electronic device  
10 storage and disposal and on the opportunities to recycle hazardous  
11 electronic devices. The board may not expend more than one  
12 percent of funds in the account may be used for the purpose of  
13 implementing this paragraph.

14 (c) The board may not provide any grant or payment for  
15 hazardous electronic devices unless the materials will be handled  
16 in compliance with all statutes and regulations regarding the  
17 export of hazardous wastes. No grant or payment may be made for  
18 hazardous electronic devices exported to any country where the  
19 export import of hazardous waste is prohibited.

20 42477. On January 1, 2004, and on January 1 every two years  
21 thereafter, the board shall establish an electronic waste recovery  
22 payment schedule for hazardous electronic wastes generated in  
23 this state to cover the net cost for an authorized collector to operate  
24 a free and convenient system for collecting, consolidating and  
25 transporting hazardous electronic wastes generated in this state.

26 42478. On January 1, 2004, and on January 1 every two years  
27 thereafter, the board shall establish an electronic waste recycling  
28 payment schedule for hazardous electronic wastes generated in  
29 this state to cover an electronic waste recycler's net cost to receive,  
30 process, and recycle a hazardous electronic device from an  
31 authorized collector.

32 42479. (a) The board shall make the following payments to  
33 an electronic waste recycler, for all hazardous electronic waste  
34 generated in this state, that is collected and received by the e-waste  
35 recycler for recycling, upon presentation of a completed e-waste  
36 recycler invoice in the form adopted by the board:

37 (1) The applicable e-waste recovery payment established  
38 pursuant to Section 42477, which shall be transmitted by the  
39 e-waste recycler to the authorized collector pursuant to  
40 subdivision (c).

1     (2) *The applicable e-waste recycling payment established*  
2 *pursuant to Section 42478, which shall be retained by the e-waste*  
3 *recycler.*

4     (b) *Notwithstanding subdivision (a), the board may not pay an*  
5 *e-waste recycling payment to an e-waste recycler that is a or*  
6 *registrant operating a hazardous electronic device recycling*  
7 *system established pursuant to Section 42467 for any amount of*  
8 *hazardous electronic waste received in a calendar year that is less*  
9 *than the amount of hazardous electronic waste specified in the*  
10 *recycling targets established pursuant to Section 42466.*

11     (c) *An e-waste recycler shall pay the applicable e-waste*  
12 *recovery payment established pursuant to Section 42477 to an*  
13 *authorized collector or its designated consolidator, for all*  
14 *hazardous electronic waste generated in this state, that is collected*  
15 *and received by the e-waste recycler for recycling, upon receipt by*  
16 *the e-waste recycler of a shipping report from the authorized*  
17 *collector, in the form adopted by the board.*

18     (d) *An e-waste recycler is eligible for a payment pursuant to*  
19 *this section only if the e-waste recycler meets all of the following*  
20 *requirements:*

21     (1) *The e-waste recycler certifies to the board that the e-waste*  
22 *recycler is in compliance with applicable requirements of Article*  
23 *6 (commencing with Section 66273.70) of Chapter 23 of Division*  
24 *4.5 of Title 22 of the California Code of Regulations.*

25     (2) *The e-waste recycler demonstrates to the board that any*  
26 *facility utilized by the e-waste recycler for the handling,*  
27 *processing, refurbishment, or recycling of hazardous electronic*  
28 *devices meets all of the following standards:*

29     (A) *The facility has been inspected by the department or the*  
30 *Certified Unified Program Agency within the past 12 months and*  
31 *had been found to be operating in conformance with all applicable*  
32 *laws, regulations and ordinances.*

33     (B) *The facility is accessible during normal business hours for*  
34 *unannounced inspections by state or local agencies.*

35     (C) *The facility submits health and safety, employee training,*  
36 *and environmental compliance plans to the manufacturer or*  
37 *registrant and certifies compliance with the plans.*

38     (D) *The facility meets or exceed the standards specified in*  
39 *Chapter 1 (commencing with Section 1171) of Part 4 of Division*  
40 *2 Division 4 (commencing with Section 3200), and Division 5*

1 (*commencing with Section 6300*), of the Labor Code or, if all or  
2 part of the work is to be performed in another state, the equivalent  
3 requirements of that state.

4 (3) *If the e-waste recycler intends to export hazardous*  
5 *electronic waste to a foreign destination, the e-waste shall comply*  
6 *with all of the following requirements before exporting the*  
7 *hazardous electronic waste to that foreign destination:*

8 (A) *Notify the department of the contents, volume, and*  
9 *destination of the proposed export.*

10 (B) *Demonstrate that the hazardous electronic waste will be*  
11 *handled in a manner that is at least as protective of public health,*  
12 *worker safety, and the environment as the laws, regulations, and*  
13 *ordinances applicable to the recycling and disposal of these*  
14 *devices in this state.*

15 (C) *Demonstrate that the importation of hazardous electronic*  
16 *waste is not prohibited by any applicable law or regulation of the*  
17 *country of destination.*

18 (D) *Demonstrate that the hazardous electronic waste is being*  
19 *exported for the purposes of reuse or recycling.*

20

21 *Article 7. State Agency Procurement*

22

23 42480. (a) A state agency that purchases or leases hazardous  
24 electronic devices shall require each prospective bidder, to certify  
25 that it, and its agents, subsidiaries, partners, joint venturers, and  
26 subcontractors for the procurement, have complied with this  
27 chapter and any regulations adopted by the board pursuant to this  
28 chapter, or to demonstrate that this chapter is inapplicable to all  
29 lines of business engaged in by the bidder, its agents, subsidiaries,  
30 partners, joint venturers, or subcontractors.

31 (b) Failure to provide certification pursuant to this section shall  
32 render the prospective bidder and its agents, subsidiaries, partners,  
33 joint venturers, and subcontractors ineligible to bid on the  
34 procurement of hazardous electronic devices.

35 (c) The bid solicitation documents shall specify that the  
36 prospective bidder is required to cooperate fully in providing  
37 reasonable access to its records and documents that evidence  
38 compliance with this chapter.

1 (d) Any person awarded a contract by a state agency that is  
2 found to be in violation of this section is subject to the following  
3 sanctions:

4 (1) The contract shall be voided by the state agency to which  
5 the equipment, materials, or supplies were provided.

6 (2) The contractor is ineligible to bid on any state contract for  
7 a period of three years.

8 (3) If the Attorney General establishes in the name of the  
9 people of the State of California that any money, property, or  
10 benefit was obtained by a contractor as a result of violating this  
11 section, the court may, in addition to any other remedy, order the  
12 disgorgement of the unlawfully obtained money, property, or  
13 benefit in the interest of justice.

14

15 Article 7: 8. Inapplicability of Chapter

16

17 42485. The board shall not implement this chapter if either of  
18 the following occur:

19 (a) A federal law, or a combination of federal laws, takes effect  
20 and does all of the following:

21 (1) Establishes a program for the collection, recycling, and  
22 proper disposal of cathode ray tube devices that is applicable to all  
23 cathode ray tube devices sold in the United States.

24 (2) Provides revenues to the state to support the collection,  
25 recycling, and proper disposal of cathode ray tube devices, in an  
26 amount that is equal to, or greater than, the revenues that would be  
27 generated by the fee imposed under Section 42471.

28 (3) Requires cathode ray tube device manufacturers, retailers,  
29 handlers, processors, and recyclers to dispose of those devices in  
30 a manner that is in compliance with all applicable federal, state,  
31 and local laws, regulations, and ordinances, and prohibits the  
32 devices from being exported for disposal in a manner that poses a  
33 significant risk to the public health or the environment.

34 (b) A trial court issues a judgment, which is not appealed, or an  
35 appellate court issues an order affirming a judgment of a trial  
36 court, holding that out-of-state manufacturers or retailers, or both,  
37 may not be required to collect the fee authorized by this chapter.  
38 The order shall be stayed until all appeals are concluded. The  
39 out-of-state manufacturers or retailers, or both, shall continue to  
40 collect the fee during the appellate process.

1 ~~SEC. 4.~~

2 *SEC. 5.* The provisions of this act are severable. If any  
3 provision of this act or its application is held invalid, that invalidity  
4 shall not affect other provisions or applications that can be given  
5 effect without the invalid provision or application.

6 ~~SEC. 5.~~

7 *SEC. 6.* No reimbursement is required by this act pursuant to  
8 Section 6 of Article XIII B of the California Constitution because  
9 the ~~only~~ costs that may be incurred by a local agency or school  
10 district will be incurred because this act creates a new crime or  
11 infraction, eliminates a crime or infraction, or changes the penalty  
12 for a crime or infraction, within the meaning of Section 17556 of  
13 the Government Code, or changes the definition of a crime within  
14 the meaning of Section 6 of Article XIII B of the California  
15 Constitution *or because a local agency or school district has the*  
16 *authority to levy service charges, fees, or assessments sufficient to*  
17 *pay for the program or level of service mandated by this act, within*  
18 *the meaning of Section 17556 of the Government Code.*

O

**DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 27 January 2003**

**on the restriction of the use of certain hazardous substances in electrical and electronic equipment**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the opinion of the Economic and Social Committee <sup>(2)</sup>,

Having regard to the opinion of the Committee of Regions <sup>(3)</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty in the light of the joint text approved by the Conciliation Committee on 8 November 2002 <sup>(4)</sup>,

Whereas:

- (1) The disparities between the laws or administrative measures adopted by the Member States as regards the restriction of the use of hazardous substances in electrical and electronic equipment could create barriers to trade and distort competition in the Community and may thereby have a direct impact on the establishment and functioning of the internal market. It therefore appears necessary to approximate the laws of the Member States in this field and to contribute to the protection of human health and the environmentally sound recovery and disposal of waste electrical and electronic equipment.
- (2) The European Council at its meeting in Nice on 7, 8 and 9 December 2000 endorsed the Council Resolution of 4 December 2000 on the precautionary principle.
- (3) The Commission Communication of 30 July 1996 on the review of the Community strategy for waste management stresses the need to reduce the content of hazardous substances in waste and points out the potential benefits of Community-wide rules limiting the presence of such substances in products and in production processes.
- (4) The Council Resolution of 25 January 1988 on a Community action programme to combat environmental pollution by cadmium <sup>(5)</sup> invites the Commission to pursue without delay the development of specific measures for such a programme. Human health also has

to be protected and an overall strategy that in particular restricts the use of cadmium and stimulates research into substitutes should therefore be implemented. The Resolution stresses that the use of cadmium should be limited to cases where suitable and safer alternatives do not exist.

- (5) The available evidence indicates that measures on the collection, treatment, recycling and disposal of waste electrical and electronic equipment (WEEE) as set out in Directive 2002/96/EC of 27 January 2003 of the European Parliament and of the Council on waste electrical and electronic equipment <sup>(6)</sup> are necessary to reduce the waste management problems linked to the heavy metals concerned and the flame retardants concerned. In spite of those measures, however, significant parts of WEEE will continue to be found in the current disposal routes. Even if WEEE were collected separately and submitted to recycling processes, its content of mercury, cadmium, lead, chromium VI, PBB and PBDE would be likely to pose risks to health or the environment.
- (6) Taking into account technical and economic feasibility, the most effective way of ensuring the significant reduction of risks to health and the environment relating to those substances which can achieve the chosen level of protection in the Community is the substitution of those substances in electrical and electronic equipment by safe or safer materials. Restricting the use of these hazardous substances is likely to enhance the possibilities and economic profitability of recycling of WEEE and decrease the negative health impact on workers in recycling plants.
- (7) The substances covered by this Directive are scientifically well researched and evaluated and have been subject to different measures both at Community and at national level.
- (8) The measures provided for in this Directive take into account existing international guidelines and recommendations and are based on an assessment of available scientific and technical information. The measures are necessary to achieve the chosen level of protection of

<sup>(1)</sup> OJ C 365 E, 19.12.2000, p. 195 and OJ C 240 E, 28.8.2001, p. 303.

<sup>(2)</sup> OJ C 116, 20.4.2001, p. 38.

<sup>(3)</sup> OJ C 148, 18.5.2001, p. 1.

<sup>(4)</sup> Opinion of the European Parliament of 15 May 2001 (OJ C 34 E, 7.2.2002, p. 109), Council Common Position of 4 December 2001 (OJ C 90 E, 16.4.2002, p. 12) and Decision of the European Parliament of 10 April 2002 (not yet published in the Official Journal), Decision of the European Parliament of 18 December 2002 and Decision of the Council of 16 December 2002.

<sup>(5)</sup> OJ C 30, 4.2.1988, p. 1.

<sup>(6)</sup> See page 24 of this Official Journal.

human and animal health and the environment, having regard to the risks which the absence of measures would be likely to create in the Community. The measures should be kept under review and, if necessary, adjusted to take account of available technical and scientific information.

- (9) This Directive should apply without prejudice to Community legislation on safety and health requirements and specific Community waste management legislation, in particular Council Directive 91/157/EEC of 18 March 1991 on batteries and accumulators containing certain dangerous substances <sup>(1)</sup>.
- (10) The technical development of electrical and electronic equipment without heavy metals, PBDE and PBB should be taken into account. As soon as scientific evidence is available and taking into account the precautionary principle, the prohibition of other hazardous substances and their substitution by more environmentally friendly alternatives which ensure at least the same level of protection of consumers should be examined.
- (11) Exemptions from the substitution requirement should be permitted if substitution is not possible from the scientific and technical point of view or if the negative environmental or health impacts caused by substitution are likely to outweigh the human and environmental benefits of the substitution. Substitution of the hazardous substances in electrical and electronic equipment should also be carried out in a way so as to be compatible with the health and safety of users of electrical and electronic equipment (EEE).
- (12) As product reuse, refurbishment and extension of lifetime are beneficial, spare parts need to be available.
- (13) The adaptation to scientific and technical progress of the exemptions from the requirements concerning phasing out and prohibition of hazardous substances should be effected by the Commission under a committee procedure.
- (14) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission <sup>(2)</sup>.

HAVE ADOPTED THIS DIRECTIVE:

#### Article 1

#### Objectives

The purpose of this Directive is to approximate the laws of the Member States on the restrictions of the use of hazardous substances in electrical and electronic equipment and to contri-

bute to the protection of human health and the environmentally sound recovery and disposal of waste electrical and electronic equipment.

#### Article 2

#### Scope

- Without prejudice to Article 6, this Directive shall apply to electrical and electronic equipment falling under the categories 1, 2, 3, 4, 5, 6, 7 and 10 set out in Annex IA to Directive No 2002/96/EC (WEEE) and to electric light bulbs, and luminaires in households.
- This Directive shall apply without prejudice to Community legislation on safety and health requirements and specific Community waste management legislation.
- This Directive does not apply to spare parts for the repair, or to the reuse, of electrical and electronic equipment put on the market before 1 July 2006.

#### Article 3

#### Definitions

For the purposes of this Directive, the following definitions shall apply:

- 'electrical and electronic equipment' or 'EEE' means equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields falling under the categories set out in Annex IA to Directive 2002/96/EC (WEEE) and designed for use with a voltage rating not exceeding 1 000 volts for alternating current and 1 500 volts for direct current;
- 'producer' means any person who, irrespective of the selling technique used, including by means of distance communication according to Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts <sup>(3)</sup>:
  - manufactures and sells electrical and electronic equipment under his own brand;
  - resells under his own brand equipment produced by other suppliers, a reseller not being regarded as the 'producer' if the brand of the producer appears on the equipment, as provided for in subpoint (i); or
  - imports or exports electrical and electronic equipment on a professional basis into a Member State.

Whoever exclusively provides financing under or pursuant to any finance agreement shall not be deemed a 'producer' unless he also acts as a producer within the meaning of subpoints (i) to (iii).

<sup>(1)</sup> OJ L 78, 26.3.1991, p. 38. Directive as amended by Commission Directive 98/101/EC (OJ L 1, 5.1.1999, p. 1).

<sup>(2)</sup> OJ L 184, 17.7.1999, p. 23.

<sup>(3)</sup> OJ L 144, 4.6.1997, p. 19. Directive as amended by Directive 2002/65/EC (L 271, 9.10.2002, p. 16).

## Article 4

**Prevention**

1. Member States shall ensure that, from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). National measures restricting or prohibiting the use of these substances in electrical and electronic equipment which were adopted in line with Community legislation before the adoption of this Directive may be maintained until 1 July 2006.

2. Paragraph 1 shall not apply to the applications listed in the Annex.

3. On the basis of a proposal from the Commission, the European Parliament and the Council shall decide, as soon as scientific evidence is available, and in accordance with the principles on chemicals policy as laid down in the Sixth Community Environment Action Programme, on the prohibition of other hazardous substances and the substitution thereof by more environment-friendly alternatives which ensure at least the same level of protection for consumers.

## Article 5

**Adaptation to scientific and technical progress**

1. Any amendments which are necessary in order to adapt the Annex to scientific and technical progress for the following purposes shall be adopted in accordance with the procedure referred to in Article 7(2):

- (a) establishing, as necessary, maximum concentration values up to which the presence of the substances referred to in Article 4(1) in specific materials and components of electrical and electronic equipment shall be tolerated;
- (b) exempting materials and components of electrical and electronic equipment from Article 4(1) if their elimination or substitution via design changes or materials and components which do not require any of the materials or substances referred to therein is technically or scientifically impracticable, or where the negative environmental, health and/or consumer safety impacts caused by substitution are likely to outweigh the environmental, health and/or consumer safety benefits thereof;
- (c) carrying out a review of each exemption in the Annex at least every four years or four years after an item is added to the list with the aim of considering deletion of materials and components of electrical and electronic equipment from the Annex if their elimination or substitution via design changes or materials and components which do not require any of the materials or substances referred to in

Article 4(1) is technically or scientifically possible, provided that the negative environmental, health and/or consumer safety impacts caused by substitution do not outweigh the possible environmental, health and/or consumer safety benefits thereof.

2. Before the Annex is amended pursuant to paragraph 1, the Commission shall *inter alia* consult producers of electrical and electronic equipment, recyclers, treatment operators, environmental organisations and employee and consumer associations. Comments shall be forwarded to the Committee referred to in Article 7(1). The Commission shall provide an account of the information it receives.

## Article 6

**Review**

Before 13 February 2005, the Commission shall review the measures provided for in this Directive to take into account, as necessary, new scientific evidence.

In particular the Commission shall, by that date, present proposals for including in the scope of this Directive equipment which falls under categories 8 and 9 set out in Annex IA to Directive 2002/96/EC (WEEE).

The Commission shall also study the need to adapt the list of substances of Article 4(1), on the basis of scientific facts and taking the precautionary principle into account, and present proposals to the European Parliament and Council for such adaptations, if appropriate.

Particular attention shall be paid during the review to the impact on the environment and on human health of other hazardous substances and materials used in electrical and electronic equipment. The Commission shall examine the feasibility of replacing such substances and materials and shall present proposals to the European Parliament and to the Council in order to extend the scope of Article 4, as appropriate.

## Article 7

**Committee**

1. The Commission shall be assisted by the Committee set up by Article 18 of Council Directive 75/442/EEC <sup>(1)</sup>.

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to Article 8 thereof.

The period provided for in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. The Committee shall adopt its rules of procedure.

<sup>(1)</sup> OJ L 194, 25.7.1975, p. 39.



*Article 8***Penalties**

Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive.

*Article 9***Transposition**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 13 August 2004. They shall immediately inform the Commission thereof.

When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

2. Member States shall communicate to the Commission the text of all laws, regulations and administrative provisions adopted in the field covered by this Directive.

*Article 10***Entry into force**

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Union*.

*Article 11***Addressees**

This Directive is addressed to the Member States.

Done at Brussels, 27 January 2003.

*For the European Parliament*

*The President*

P. COX

*For the Council*

*The President*

G. DRYS

## ANNEX

**Applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4(1)**

1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
2. 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.
3. Mercury in straight fluorescent lamps for special purposes.
4. Mercury in other lamps not specifically mentioned in this Annex.
5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
6. 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.
7. — 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. piezoelectronic devices).
8. Cadmium plating except for applications banned under Directive 91/338/EEC <sup>(1)</sup> amending Directive 76/769/EEC <sup>(2)</sup> relating to restrictions on the marketing and use of certain dangerous substances and preparations.
9. Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.
10. Within the procedure referred to in Article 7(2), the Commission shall evaluate the applications for:
  - Deca BDE,
  - mercury in straight fluorescent lamps for special purposes,
  - lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications (with a view to setting a specific time limit for this exemption), and
  - light bulbs,as a matter of priority in order to establish as soon as possible whether these items are to be amended accordingly.

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<sup>(1)</sup> OJ L 186, 12.7.1991, p. 59.

<sup>(2)</sup> OJ L 262, 27.9.1976, p. 201.

**DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
**of 27 January 2003**  
**on waste electrical and electronic equipment (WEEE)**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the Opinion of the Economic and Social Committee <sup>(2)</sup>,

Having regard to the Opinion of the Committee of Regions <sup>(3)</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty in the light of the joint text approved by the Conciliation Committee on 8 November 2002 <sup>(4)</sup>,

Whereas:

- (1) The objectives of the Community's environment policy are, in particular, to preserve, protect and improve the quality of the environment, protect human health and utilise natural resources prudently and rationally. That policy is based on the precautionary principle and principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.
- (2) The Community programme of policy and action in relation to the environment and sustainable development (Fifth Environmental Action Programme) <sup>(5)</sup> states that the achievement of sustainable development calls for significant changes in current patterns of development, production, consumption and behaviour and advocates, *inter alia*, the reduction of wasteful consumption of natural resources and the prevention of pollution. It mentions waste electrical and electronic equipment (WEEE) as one of the target areas to be regulated, in view of the application of the principles of prevention, recovery and safe disposal of waste.
- (3) The Commission Communication of 30 July 1996 on review of the Community strategy for waste management states that, where the generation of waste cannot be avoided, it should be reused or recovered for its material or energy.
- (4) The Council in its Resolution of 24 February 1997 on a Community strategy for waste management <sup>(6)</sup> insisted on the need for promoting waste recovery with a view to reducing the quantity of waste for disposal and saving natural resources, in particular by reuse, recycling, composting and recovering energy from waste and recognised that the choice of options in any particular case must have regard to environmental and economic effects but that until scientific and technological progress is made and life-cycle analyses are further developed, reuse and material recovery should be considered preferable where and in so far as they are the best environmental options. The Council also invited the Commission to develop, as soon as possible, an appropriate follow-up to the projects of the priority waste streams programme, including WEEE.
- (5) The European Parliament, in its Resolution of 14 November 1996 <sup>(7)</sup>, asked the Commission to present proposals for Directives on a number of priority waste streams, including electrical and electronic waste, and to base such proposals on the principle of producer responsibility. The European Parliament, in the same Resolution, requests the Council and the Commission to put forward proposals for cutting the volume of waste.
- (6) Council Directive 75/442/EEC of 15 July 1975 on waste <sup>(8)</sup> provides that specific rules for particular instances or supplementing those of Directive 75/442/EEC on the management of particular categories of waste may be laid down by means of individual Directives.
- (7) The amount of WEEE generated in the Community is growing rapidly. The content of hazardous components in electrical and electronic equipment (EEE) is a major concern during the waste management phase and recycling of WEEE is not undertaken to a sufficient extent.
- (8) The objective of improving the management of WEEE cannot be achieved effectively by Member States acting individually. In particular, different national applications of the producer responsibility principle may lead to substantial disparities in the financial burden on economic operators. Having different national policies on the management of WEEE hampers the effectiveness of recycling policies. For that reason the essential criteria should be laid down at Community level.

<sup>(1)</sup> OJ C 365 E, 19.12.2000, p. 184 and OJ C 240 E, 28.8.2001, p. 298.

<sup>(2)</sup> OJ C 116, 20.4.2001, p. 38.

<sup>(3)</sup> OJ C 148, 18.5.2001, p. 1.

<sup>(4)</sup> Opinion of the European Parliament of 15 May 2001 (OJ C 34 E, 7.2.2002, p. 115), Council Common Position of 4 December 2001 (OJ C 110 E, 7.5.2002, p. 1) and Decision of the European Parliament of 10 April 2002 (not yet published in the Official Journal). Decision of the European Parliament of 18 December 2002 and Decision of the Council of 16 December 2002.

<sup>(5)</sup> OJ C 138, 17.5.1993, p. 5.

<sup>(6)</sup> OJ C 76, 11.3.1997, p. 1.

<sup>(7)</sup> OJ C 362, 2.12.1996, p. 241.

<sup>(8)</sup> OJ L 194, 25.7.1975, p. 47. Directive as last amended by Commission Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32).

- (9) The provisions of this Directive should apply to products and producers irrespective of the selling technique, including distance and electronic selling. In this connection the obligations of producers and distributors using distance and electronic selling channels should, as far as is practicable, take the same form and should be enforced in the same way in order to avoid other distribution channels having to bear the costs of the provisions of this Directive concerning WEEE for which the equipment was sold by distant or electronic selling.
- (10) This Directive should cover all electrical and electronic equipment used by consumers and electrical and electronic equipment intended for professional use. This Directive should apply without prejudice to Community legislation on safety and health requirements protecting all actors in contact with WEEE as well as specific Community waste management legislation, in particular Council Directive 91/157/EEC of 18 March 1991 on batteries and accumulators containing certain dangerous substances <sup>(1)</sup>.
- (11) Directive 91/157/EEC needs to be revised as soon as possible, particularly in the light of this Directive.
- (12) The establishment, by this Directive, of producer responsibility is one of the means of encouraging the design and production of electrical and electronic equipment which take into full account and facilitate their repair, possible upgrading, reuse, disassembly and recycling.
- (13) In order to guarantee the safety and health of distributors' personnel involved in the take-back and handling of WEEE, Member States should, in accordance with national and Community legislation on safety and health requirements, determine the conditions under which take-back may be refused by distributors.
- (14) Member States should encourage the design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery, in particular the re-use and recycling of WEEE, their components and materials. Producers should not prevent, through specific design features or manufacturing processes, WEEE from being reused, unless such specific design features or manufacturing processes present overriding advantages, for example with regard to the protection of the environment and/or safety requirements.
- (15) Separate collection is the precondition to ensure specific treatment and recycling of WEEE and is necessary to achieve the chosen level of protection of human health and the environment in the Community. Consumers have to actively contribute to the success of such collection and should be encouraged to return WEEE. For this purpose, convenient facilities should be set up for the return of WEEE, including public collection points, where private households should be able to return their waste at least free of charge.
- (16) In order to attain the chosen level of protection and harmonised environmental objectives of the Community, Member States should adopt appropriate measures to minimise the disposal of WEEE as unsorted municipal waste and to achieve a high level of separate collection of WEEE. In order to ensure that Member States strive to set up efficient collection schemes, they should be required to achieve a high level of collection of WEEE from private households.
- (17) Specific treatment for WEEE is indispensable in order to avoid the dispersion of pollutants into the recycled material or the waste stream. Such treatment is the most effective means of ensuring compliance with the chosen level of protection of the environment of the Community. Any establishment or undertakings carrying out recycling and treatment operations should comply with minimum standards to prevent negative environmental impacts associated with the treatment of WEEE. Best available treatment, recovery and recycling techniques should be used provided that they ensure human health and high environmental protection. Best available treatment, recovery and recycling techniques may be further defined in accordance with the procedures of Directive 96/61/EC.
- (18) Where appropriate, priority should be given to the reuse of WEEE and its components, subassemblies and consumables. Where reuse is not preferable, all WEEE collected separately should be sent for recovery, in the course of which a high level of recycling and recovery should be achieved. In addition, producers should be encouraged to integrate recycled material in new equipment.
- (19) Basic principles with regard to the financing of WEEE management have to be set at Community level and financing schemes have to contribute to high collection rates as well as to the implementation of the principle of producer responsibility.
- (20) Users of electrical and electronic equipment from private households should have the possibility of returning WEEE at least free of charge. Producers should therefore finance collection from collection facilities, and the treatment, recovery and disposal of WEEE. In order to give maximum effect to the concept of producer responsibility, each producer should be responsible for financing the management of the waste from his own products. The producer should be able to choose to fulfil this obligation either individually or by joining a collective scheme. Each producer should, when placing a product on the market, provide a financial guarantee to prevent costs for the management of WEEE from orphan products from falling on society or the remaining producers. The responsibility for the financing of the management of historical waste should be shared by all existing producers in collective financing schemes to which all producers, existing on the market when the costs occur,

<sup>(1)</sup> OJ L 78, 26.3.1991, p. 38. Directive as amended by Commission Directive 98/101/EC (OJ L 1, 5.1.1999, p. 1).

contribute proportionately. Collective financing schemes should not have the effect of excluding niche and low-volume producers, importers and new entrants. For a transitional period, producers should be allowed to show purchasers, on a voluntary basis at the time of sale of new products, the costs of collecting, treating and disposing in an environmentally sound way of historical waste. Producers making use of this provision should ensure that the costs mentioned do not exceed the actual costs incurred.

(21) Information to users about the requirement not to dispose of WEEE as unsorted municipal waste and to collect WEEE separately, and about the collection systems and their role in the management of WEEE, is indispensable for the success of WEEE collection. Such information implies the proper marking of electrical and electronic equipment which could end up in rubbish bins or similar means of municipal waste collection.

(22) Information on component and material identification to be provided by producers is important to facilitate the management, and in particular the treatment and recovery/recycling, of WEEE.

(23) Member States should ensure that inspection and monitoring infrastructure enable the proper implementation of this Directive to be verified, having regard, *inter alia*, to Recommendation 2001/331/EC of the European Parliament and the Council of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States <sup>(1)</sup>.

(24) Information about the weight or, if this is not possible, the numbers of items of electrical and electronic equipment put on the market in the Community and the rates of collection, reuse (including as far as possible reuse of whole appliances), recovery/recycling and export of WEEE collected in accordance with this Directive is necessary to monitor the achievement of the objectives of this Directive.

(25) Member States may choose to implement certain provisions of this Directive by means of agreements between the competent authorities and the economic sectors concerned provided that particular requirements are met.

(26) The adaptation to scientific and technical progress of certain provisions of the Directive, the list of products falling under the categories set out in Annex IA, the selective treatment for materials and components of WEEE, the technical requirements for storage and treatment of WEEE and the symbol for the marking of EEE should be effected by the Commission under a committee procedure.

(27) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission <sup>(2)</sup>,

HAVE ADOPTED THIS DIRECTIVE:

#### Article 1

#### Objectives

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. It also seeks to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment, e.g. producers, distributors and consumers and in particular those operators directly involved in the treatment of waste electrical and electronic equipment.

#### Article 2

#### Scope

1. This Directive shall apply to electrical and electronic equipment falling under the categories set out in Annex IA provided that the equipment concerned is not part of another type of equipment that does not fall within the scope of this Directive. Annex IB contains a list of products which fall under the categories set out in Annex IA.

2. This Directive shall apply without prejudice to Community legislation on safety and health requirements and specific Community waste management legislation.

3. Equipment which is connected with the protection of the essential interests of the security of Member States, arms, munitions and war material shall be excluded from this Directive. This does not, however, apply to products which are not intended for specifically military purposes.

<sup>(1)</sup> OJ L 118, 27.4.2001, p. 41.

<sup>(2)</sup> OJ L 184, 17.7.1999, p. 23.

## Article 3

**Definitions**

For the purposes of this Directive, the following definitions shall apply:

- (a) 'electrical and electronic equipment' or 'EEE' means equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields falling under the categories set out in Annex IA and designed for use with a voltage rating not exceeding 1 000 Volt for alternating current and 1 500 Volt for direct current;
- (b) 'waste electrical and electronic equipment' or 'WEEE' means electrical or electronic equipment which is waste within the meaning of Article 1(a) of Directive 75/442/EEC, including all components, subassemblies and consumables which are part of the product at the time of discarding;
- (c) 'prevention' means measures aimed at reducing the quantity and the harmfulness to the environment of WEEE and materials and substances contained therein;
- (d) 'reuse' means any operation by which WEEE or components thereof are used for the same purpose for which they were conceived, including the continued use of the equipment or components thereof which are returned to collection points, distributors, recyclers or manufacturers;
- (e) 'recycling' means the reprocessing in a production process of the waste materials for the original purpose or for other purposes, but excluding energy recovery which means the use of combustible waste as a means of generating energy through direct incineration with or without other waste but with recovery of the heat;
- (f) 'recovery' means any of the applicable operations provided for in Annex IIB to Directive 75/442/EEC;
- (g) 'disposal' means any of the applicable operations provided for in Annex IIA to Directive 75/442/EEC;
- (h) 'treatment' means any activity after the WEEE has been handed over to a facility for depollution, disassembly, shredding, recovery or preparation for disposal and any other operation carried out for the recovery and/or the disposal of the WEEE;
- (i) 'producer' means any person who, irrespective of the selling technique used, including by means of distance communication in accordance with Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts <sup>(1)</sup>:
  - (i) manufactures and sells electrical and electronic equipment under his own brand,

- (ii) resells under his own brand equipment produced by other suppliers, a reseller not being regarded as the 'producer' if the brand of the producer appears on the equipment, as provided for in subpoint (i), or
- (iii) imports or exports electrical and electronic equipment on a professional basis into a Member State.

Whoever exclusively provides financing under or pursuant to any finance agreement shall not be deemed a 'producer' unless he also acts as a producer within the meaning of subpoints (i) to (iii);

- (j) 'distributor' means any person who provides electrical or electronic equipment on a commercial basis to the party who is going to use it;
- (k) 'WEEE from private households' means WEEE which comes from private households and from commercial, industrial, institutional and other sources which, because of its nature and quantity, is similar to that from private households;
- (l) 'dangerous substance or preparation' means any substance or preparation which has to be considered dangerous under Council Directive 67/548/EEC <sup>(2)</sup> or Directive 1999/45/EC of the European Parliament and of the Council <sup>(3)</sup>.
- (m) 'finance agreement' means any loan, lease, hiring or deferred sale agreement or arrangement relating to any equipment whether or not the terms of that agreement or arrangement or any collateral agreement or arrangement provide that a transfer of ownership of that equipment will or may take place.

## Article 4

**Product design**

Member States shall encourage the design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery, in particular the reuse and recycling of WEEE, their components and materials. In this context, Member States shall take appropriate measures so that producers do not prevent, through specific design features or manufacturing processes, WEEE from being reused, unless such specific design features or manufacturing processes present overriding advantages, for example, with regard to the protection of the environment and/or safety requirements.

## Article 5

**Separate collection**

1. Member States shall adopt appropriate measures in order to minimise the disposal of WEEE as unsorted municipal waste and to achieve a high level of separate collection of WEEE.

<sup>(2)</sup> OJ 196, 16.8.1967, p. 1. Directive as last amended by Commission Directive 2001/59/EC (OJ L 225, 21.8.2001, p. 1).

<sup>(3)</sup> OJ L 200, 30.7.1999, p. 1. Directive as amended by Commission Directive 2001/60/EC (OJ L 226, 22.8.2001, p. 5).

<sup>(1)</sup> OJ L 144, 4.6.1997, p. 19.

2. For WEEE from private households, Member States shall ensure that by the 13 August 2005:

- (a) systems are set up allowing final holders and distributors to return such waste at least free of charge. Member States shall ensure the availability and accessibility of the necessary collection facilities, taking into account in particular the population density;
- (b) when supplying a new product, distributors shall be responsible for ensuring that such waste can be returned to the distributor at least free of charge on a one-to-one basis as long as the equipment is of equivalent type and has fulfilled the same functions as the supplied equipment. Member States may depart from this provision provided they ensure that returning the WEEE is not thereby made more difficult for the final holder and provided that these systems remain free of charge for the final holder. Member States making use of this provision shall inform the Commission thereof;
- (c) without prejudice to the provisions of (a) and (b), producers are allowed to set up and operate individual and/or collective take-back systems for WEEE from private households provided that these are in line with the objectives of this Directive;
- (d) having regard to national and Community health and safety standards, WEEE that presents a health and safety risk to personnel because of contamination may be refused for return under (a) and (b). Member States shall make specific arrangements for such WEEE.

Member States may provide for specific arrangements for the return of WEEE as under (a) and (b) if the equipment does not contain the essential components or if the equipment contains waste other than WEEE.

3. In the case of WEEE other than WEEE from private households, and without prejudice to Article 9, Member States shall ensure that producers or third parties acting on their behalf provide for the collection of such waste.

4. Member States shall ensure that all WEEE collected under paragraphs 1, 2 and 3 above is transported to treatment facilities authorised under Article 6 unless the appliances are reused as a whole. Member States shall ensure that the envisaged reuse does not lead to a circumvention of this Directive, in particular as regards Articles 6 and 7. The collection and transport of separately collected WEEE shall be carried out in a way which optimises reuse and recycling of those components or whole appliances capable of being reused or recycled.

5. Without prejudice to paragraph 1, Member States shall ensure that by 31 December 2006 at the latest a rate of separate collection of at least four kilograms on average per inhabitant per year of WEEE from private households is achieved.

The European Parliament and the Council, acting on a proposal from the Commission and taking account of technical and economic experience in the Member States, shall establish a new mandatory target by 31 December 2008. This may take the form of a percentage of the quantities of electrical and electronic equipment sold to private households in the preceding years.

#### Article 6

#### Treatment

1. Member States shall ensure that producers or third parties acting on their behalf, in accordance with Community legislation, set up systems to provide for the treatment of WEEE using best available treatment, recovery and recycling techniques. The systems may be set up by producers individually and/or collectively. To ensure compliance with Article 4 of Directive 75/442/EEC, the treatment shall, as a minimum, include the removal of all fluids and a selective treatment in accordance with Annex II to this Directive.

Other treatment technologies ensuring at least the same level of protection for human health and the environment may be introduced in Annex II under the procedure referred to in Article 14(2).

For the purposes of environmental protection, Member States may set up minimum quality standards for the treatment of collected WEEE. Member States which opt for such quality standards shall inform the Commission thereof, which shall publish these standards.

2. Member States shall ensure that any establishment or undertaking carrying out treatment operations obtains a permit from the competent authorities, in compliance with Articles 9 and 10 of Directive 75/442/EEC.

The derogation from the permit requirement referred to in Article 11(1)(b) of Directive 75/442/EEC may apply to recovery operations concerning WEEE if an inspection is carried out by the competent authorities before the registration in order to ensure compliance with Article 4 of Directive 75/442/EEC.

The inspection shall verify:

- (a) the type and quantities of waste to be treated;
- (b) the general technical requirements to be complied with;
- (c) the safety precautions to be taken.

The inspection shall be carried out at least once a year and the results shall be communicated by the Member States to the Commission.

3. Member States shall ensure that any establishment or undertaking carrying out treatment operations stores and treats WEEE in compliance with the technical requirements set out in Annex III.

4. Member States shall ensure that the permit or the registration referred to in paragraph 2 includes all conditions necessary for compliance with the requirements of paragraphs 1 and 3 and for the achievement of the recovery targets set out in Article 7.

5. The treatment operation may also be undertaken outside the respective Member State or the Community provided that the shipment of WEEE is in compliance with Council Regulation (EEC) No 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community <sup>(1)</sup>.

WEEE exported out of the Community in line with Council Regulation (EEC) No 259/93, Council Regulation (EC) No 1420/1999 <sup>(2)</sup> of 29 April 1999 establishing common rules and procedures to apply to shipments to certain non-OECD countries of certain types of waste and Commission Regulation (EC) No 1547/1999 <sup>(3)</sup> of 12 July 1999 determining the control procedures under Council Regulation (EEC) No 259/93 to apply to shipments of certain types of waste to certain countries to which OECD Decision C(92)39 final does not apply, shall only count for the fulfilment of obligations and targets of Article 7(1) and (2) of this Directive if the exporter can prove that the recovery, reuse and/or recycling operation took place under conditions that are equivalent to the requirements of this Directive.

6. Member States shall encourage establishments or undertakings which carry out treatment operations to introduce certified environmental management systems in accordance with Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) <sup>(4)</sup>.

#### Article 7

#### Recovery

1. Member States shall ensure that producers or third parties acting on their behalf set up systems either on an individual or on a collective basis, in accordance with Community legislation, to provide for the recovery of WEEE collected separately in accordance with Article 5. Member States shall give priority to the reuse of whole appliances. Until the date referred to in paragraph 4, such appliances shall not be taken into account for the calculation of the targets set out in paragraph 2.

2. Regarding WEEE sent for treatment in accordance with Article 6, Member States shall ensure that, by 31 December 2006, producers meet the following targets:

- (a) for WEEE falling under categories 1 and 10 of Annex IA,
- the rate of recovery shall be increased to a minimum of 80 % by an average weight per appliance, and

<sup>(1)</sup> OJ L 30, 6.2.1993, p. 1. Regulation as last amended by Commission Regulation (EC) No 2557/2001 (OJ L 349, 31.12.2001, p. 1).

<sup>(2)</sup> OJ L 166, 1.7.1999, p. 6. Regulation as last amended by Commission Regulation (EC) No 2243/2001 (OJ L 303, 20.11.2001, p. 11).

<sup>(3)</sup> OJ L 185, 17.7.1999, p. 1. Regulation as last amended by Commission Regulation (EC) No 2243/2001.

<sup>(4)</sup> OJ L 114, 24.4.2001, p. 1.

- component, material and substance reuse and recycling shall be increased to a minimum of 75 % by an average weight per appliance;

(b) for WEEE falling under categories 3 and 4 of Annex IA,

- the rate of recovery shall be increased to a minimum of 75 % by an average weight per appliance, and
- component, material and substance reuse and recycling shall be increased to a minimum of 65 % by an average weight per appliance;

(c) for WEEE falling under categories 2, 5, 6, 7 and 9 of Annex IA,

- the rate of recovery shall be increased to a minimum of 70 % by an average weight per appliance, and
- component, material and substance reuse and recycling shall be increased to a minimum of 50 % by an average weight per appliance;

(d) for gas discharge lamps, the rate of component, material and substance reuse and recycling shall reach a minimum of 80 % by weight of the lamps.

3. Member States shall ensure that, for the purpose of calculating these targets, producers or third parties acting on their behalf keep records on the mass of WEEE, their components, materials or substances when entering (input) and leaving (output) the treatment facility and/or when entering (input) the recovery or recycling facility.

The Commission shall, in accordance with the procedure laid down in Article 14(2), establish the detailed rules for monitoring compliance, including specifications for materials, of Member States with the targets set out in paragraph 2. The Commission shall submit this measure by 13 August 2004.

4. The European Parliament and the Council, acting on a proposal from the Commission, shall establish new targets for recovery and reuse/recycling, including for the reuse of whole appliances as appropriate, and for the products falling under category 8 of Annex IA, by 31 December 2008. This shall be done with account being taken of the environmental benefits of electrical and electronic equipment in use, such as improved resource efficiency resulting from developments in the areas of materials and technology. Technical progress in reuse, recovery and recycling, products and materials, and the experience gained by the Member States and the industry, shall also be taken into account.

5. Member States shall encourage the development of new recovery, recycling and treatment technologies.



## Article 8

**Financing in respect of WEEE from private households**

1. Member States shall ensure that, by 13 August 2005, producers provide at least for the financing of the collection, treatment, recovery and environmentally sound disposal of WEEE from private households deposited at collection facilities, set up under Article 5(2).

2. For products put on the market later than 13 August 2005, each producer shall be responsible for financing the operations referred to in paragraph 1 relating to the waste from his own products. The producer can choose to fulfil this obligation either individually or by joining a collective scheme.

Member States shall ensure that each producer provides a guarantee when placing a product on the market showing that the management of all WEEE will be financed and that producers clearly mark their products in accordance with Article 11(2). This guarantee shall ensure that the operations referred to in paragraph 1 relating to this product will be financed. The guarantee may take the form of participation by the producer in appropriate schemes for the financing of the management of WEEE, a recycling insurance or a blocked bank account.

The costs of collection, treatment and environmentally sound disposal shall not be shown separately to purchasers at the time of sale of new products.

3. The responsibility for the financing of the costs of the management of WEEE from products put on the market before the date referred to in paragraph 1 (historical waste) shall be provided by one or more systems to which all producers, existing on the market when the respective costs occur, contribute proportionately, e.g. in proportion to their respective share of the market by type of equipment.

Member States shall ensure that for a transitional period of eight years (10 years for category 1 of Annex IA) after entry into force of this Directive, producers are allowed to show purchasers, at the time of sale of new products, the costs of collection, treatment and disposal in an environmentally sound way. The costs mentioned shall not exceed the actual costs incurred.

4. Member States shall ensure that producers supplying electrical or electronic equipment by means of distance communication also comply with the requirements set out in this Article for the equipment supplied in the Member State where the purchaser of that equipment resides.

## Article 9

**Financing in respect of WEEE from users other than private households**

Member States shall ensure that, by 13 August 2005, the financing of the costs for the collection, treatment, recovery and environmentally sound disposal of WEEE from users other than private households from products put on the market after 13 August 2005 is to be provided for by producers.

For WEEE from products put on the market before 13 August 2005 (historical waste), the financing of the costs of management shall be provided for by producers. Member States may, as an alternative, provide that users other than private households also be made, partly or totally, responsible for this financing.

Producers and users other than private households may, without prejudice to this Directive, conclude agreements stipulating other financing methods.

## Article 10

**Information for users**

1. Member States shall ensure that users of electrical and electronic equipment in private households are given the necessary information about:

- (a) the requirement not to dispose of WEEE as unsorted municipal waste and to collect such WEEE separately;
- (b) the return and collection systems available to them;
- (c) their role in contributing to reuse, recycling and other forms of recovery of WEEE;
- (d) the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment;
- (e) the meaning of the symbol shown in Annex IV.

2. Member States shall adopt appropriate measures so that consumers participate in the collection of WEEE and to encourage them to facilitate the process of reuse, treatment and recovery.

3. With a view to minimising the disposal of WEEE as unsorted municipal waste and to facilitating its separate collection, Member States shall ensure that producers appropriately mark electrical and electronic equipment put on the market after 13 August 2005 with the symbol shown in Annex IV. In exceptional cases, where this is necessary because of the size or the function of the product, the symbol shall be printed on the packaging, on the instructions for use and on the warranty of the electrical and electronic equipment.

4. Member States may require that some or all of the information referred to in paragraphs 1 to 3 shall be provided by producers and/or distributors, e.g. in the instructions for use or at the point of sale.

## Article 11

**Information for treatment facilities**

1. In order to facilitate the reuse and the correct and environmentally sound treatment of WEEE, including maintenance, upgrade, refurbishment and recycling, Member States shall take the necessary measures to ensure that producers provide reuse and treatment information for each type of new EEE put on the market within one year after the equipment is put on the market. This information shall identify, as far as it is needed by reuse centres, treatment and recycling facilities in order to comply with the provisions of this Directive, the different EEE components and materials, as well as the location of dangerous substances and preparations in EEE. It shall be made available to reuse centres, treatment and recycling facilities by producers of EEE in the form of manuals or by means of electronic media (e.g. CD-ROM, online services).

2. Member States shall ensure that any producer of an electrical or electronic appliance put on the market after 13 August 2005 is clearly identifiable by a mark on the appliance. Furthermore, in order to enable the date upon which the appliance was put on the market to be determined unequivocally, a mark on the appliance shall specify that the latter was put on the market after 13 August 2005. The Commission shall promote the preparation of European standards for this purpose.

## Article 12

**Information and reporting**

1. Member States shall draw up a register of producers and collect information, including substantiated estimates, on an annual basis on the quantities and categories of electrical and electronic equipment put on their market, collected through all routes, reused, recycled and recovered within the Member States, and on collected waste exported, by weight or, if this is not possible, by numbers.

Member States shall ensure that producers supplying electrical and electronic equipment by means of distance communication provide information on the compliance with the requirements of Article 8(4) and on the quantities and categories of electrical and electronic equipment put on the market of the Member State where the purchaser of that equipment resides.

Member States shall ensure that the information required is transmitted to the Commission on a two-yearly basis within 18 months after the end of the period covered. The first set of information shall cover the years 2005 and 2006. The information shall be provided in a format which shall be established within one year after the entry into force of this Directive in accordance with the procedure referred to in Article 14(2) with a view to establishing databases on WEEE and its treatment.

Member States shall provide for adequate information exchange in order to comply with this paragraph, in particular for treatment operations as referred to in Article 6(5).

2. Without prejudice to the requirements of paragraph 1, Member States shall send a report to the Commission on the implementation of this Directive at three-year intervals. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure laid down in Article 6 of Council Directive 91/692/EEC of 23 December 1991 standardising and rationalising reports on the implementation of certain Directives relating to the environment<sup>(1)</sup>. The questionnaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be made available to the Commission within nine months of the end of the three-year period covered by it.

The first three-year report shall cover the period from 2004 to 2006.

The Commission shall publish a report on the implementation of this Directive within nine months after receiving the reports from the Member States.

## Article 13

**Adaptation to scientific and technical progress**

Any amendments which are necessary in order to adapt Article 7(3), Annex IB, (in particular with a view to possibly adding luminaires in households, filament bulbs and photovoltaic products, i.e. solar panels), Annex II (in particular taking into account new technical developments for the treatment of WEEE), and Annexes III and IV to scientific and technical progress shall be adopted in accordance with the procedure referred to in Article 14(2).

Before the Annexes are amended the Commission shall *inter alia* consult producers of electrical and electronic equipment, recyclers, treatment operators and environmental organisations and employees' and consumer associations.

## Article 14

**Committee**

1. The Commission shall be assisted by the Committee set up by Article 18 of Directive 75/442/EEC.

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. The Committee shall adopt its rules of procedure.

<sup>(1)</sup> OJ L 377, 31.12.1991, p. 48.

*Article 15***Penalties**

Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive.

*Article 16***Inspection and monitoring**

Member States shall ensure that inspection and monitoring enable the proper implementation of this Directive to be verified.

*Article 17***Transposition**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 13 August 2004. They shall immediately inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

2. Member States shall communicate to the Commission the text of all laws, regulations and administrative provisions adopted in the field covered by this Directive.

3. Provided that the objectives set out in this Directive are achieved, Member States may transpose the provisions set out in Articles 6(6), 10(1) and 11 by means of agreements between the competent authorities and the economic sectors concerned. Such agreements shall meet the following requirements:

- (a) agreements shall be enforceable;
- (b) agreements shall specify objectives with the corresponding deadlines;
- (c) agreements shall be published in the national official journal or an official document equally accessible to the public and transmitted to the Commission;
- (d) the results achieved shall be monitored regularly, reported to the competent authorities and the Commission and made available to the public under the conditions set out in the agreement;
- (e) the competent authorities shall ensure that the progress reached under the agreement is examined;
- (f) in case of non-compliance with the agreement Member States must implement the relevant provisions of this Directive by legislative, regulatory or administrative measures.

4. (a) Greece and Ireland which, because of their overall:
  - recycling infrastructure deficit,
  - geographical circumstances such as the large number of small islands and the presence of rural and mountain areas,
  - low population density, and
  - low level of EEE consumption,

are unable to reach either the collection target mentioned in the first subparagraph of Article 5(5) or the recovery targets mentioned in Article 7(2) and which, under the third subparagraph of Article 5(2) of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste <sup>(1)</sup>, may apply for an extension of the deadline mentioned in that Article,

may extend the periods referred to in Articles 5(5) and 7(2) of this Directive by up to 24 months.

These Member States shall inform the Commission of their Decisions at the latest at the time of transposition of this Directive.

- (b) The Commission shall inform other Member States and the European Parliament of these decisions.

5. Within five years after the entry into force of this Directive, the Commission shall submit a report to the European Parliament and the Council based on the experience of the application of this Directive, in particular as regards separate collection, treatment, recovery and financing systems. Furthermore the report shall be based on the development of the state of technology, experience gained, environmental requirements and the functioning of the internal market. The report shall, as appropriate, be accompanied by proposals for revision of the relevant provisions of this Directive.

*Article 18***Entry into force**

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Union*.

*Article 19***Addressees**

This Directive is addressed to the Member States.

Done at Brussels, 27 January 2003.

*For the European Parliament*

*The President*

P. COX

*For the Council*

*The President*

G. DRYS

<sup>(1)</sup> OJ L 182, 16.7.1999, p. 1.

## ANNEX IA

**Categories of electrical and electronic equipment covered by this Directive**

1. Large household appliances
  2. Small household appliances
  3. IT and telecommunications equipment
  4. Consumer equipment
  5. Lighting equipment
  6. Electrical and electronic tools (with the exception of large-scale stationary industrial tools)
  7. Toys, leisure and sports equipment
  8. Medical devices (with the exception of all implanted and infected products)
  9. Monitoring and control instruments
  10. Automatic dispensers
-

## ANNEX IB

**List of products which shall be taken into account for the purpose of this Directive and which fall under the categories of Annex IA**

## 1. Large household appliances

Large cooling appliances

Refrigerators

Freezers

Other large appliances used for refrigeration, conservation and storage of food

Washing machines

Clothes dryers

Dish washing machines

Cooking

Electric stoves

Electric hot plates

Microwaves

Other large appliances used for cooking and other processing of food

Electric heating appliances

Electric radiators

Other large appliances for heating rooms, beds, seating furniture

Electric fans

Air conditioner appliances

Other fanning, exhaust ventilation and conditioning equipment

## 2. Small household appliances

Vacuum cleaners

Carpet sweepers

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 equipment for opening or sealing containers or packages

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 and telecommunications equipment

Centralised data processing:

Mainframes

Minicomputers

Printer units

Personal computing:

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

Laptop computers (CPU, mouse, screen and keyboard included)

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Notebook computers  
Notepad computers  
Printers  
Copying equipment  
Electrical and electronic typewriters  
Pocket and desk calculators  
and other products and equipment for the collection, storage, processing, presentation or communication of information by electronic means  
User terminals and systems  
Facsimile  
Telex  
Telephones  
Pay telephones  
Cordless telephones  
Cellular telephones  
Answering systems  
and other products or equipment of transmitting sound, images or other information by telecommunications

#### 4. Consumer equipment

Radio sets  
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 telecommunications

#### 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 (with the exception of large-scale stationary industrial tools)

Drills  
Saws  
Sewing machines  
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

7. Toys, leisure and sports equipment
    - 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 devices (with the exception of all implanted and infected products)
    - Radiotherapy equipment
    - Cardiology
    - Dialysis
    - Pulmonary ventilators
    - Nuclear medicine
    - Laboratory equipment for *in-vitro* diagnosis
    - Analysers
    - Freezers
    - Fertilization tests
    - Other appliances for detecting, preventing, monitoring, treating, alleviating illness, injury or disability
  9. Monitoring and control instruments
    - Smoke detector
    - Heating regulators
    - Thermostats
    - Measuring, weighing or adjusting appliances for household or as laboratory equipment
    - Other monitoring and control instruments used in industrial installations (e.g. in control panels)
  10. Automatic dispensers
    - Automatic dispensers for hot drinks
    - Automatic dispensers for hot or cold bottles or cans
    - Automatic dispensers for solid products
    - Automatic dispensers for money
    - All appliances which deliver automatically all kind of products
-

## ANNEX II

**Selective treatment for materials and components of waste electrical and electronic equipment in accordance with Article 6(1)**

1. As a minimum the following substances, preparations and components have to be removed from any separately collected WEEE:
  - polychlorinated biphenyls (PCB) containing capacitors in accordance with Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT) <sup>(1)</sup>,
  - mercury containing components, such as switches or backlighting lamps,
  - batteries,
  - printed circuit boards of mobile phones generally, and of other devices if the surface of the printed circuit board is greater than 10 square centimetres,
  - toner cartridges, liquid and pasty, as well as colour toner,
  - plastic containing brominated flame retardants,
  - asbestos waste and components which contain asbestos,
  - cathode ray tubes,
  - chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC) or hydrofluorocarbons (HFC), hydrocarbons (HC),
  - gas discharge lamps,
  - liquid crystal displays (together with their casing where appropriate) of a surface greater than 100 square centimetres and all those back-lighted with gas discharge lamps,
  - external electric cables,
  - components containing refractory ceramic fibres as described in Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress Council Directive 67/548/EEC relating to the classification, packaging and labelling of dangerous substances <sup>(2)</sup>,
  - components containing radioactive substances with the exception of components that are below the exemption thresholds set in Article 3 of and Annex I to Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation <sup>(3)</sup>,
  - electrolyte capacitors containing substances of concern (height > 25 mm, diameter > 25 mm or proportionately similar volume)

These substances, preparations and components shall be disposed of or recovered in compliance with Article 4 of Council Directive 75/442/EEC.
2. The following components of WEEE that is separately collected have to be treated as indicated:
  - cathode ray tubes: The fluorescent coating has to be removed,
  - equipment containing gases that are ozone depleting or have a global warming potential (GWP) above 15, such as those contained in foams and refrigeration circuits: the gases must be properly extracted and properly treated. Ozone-depleting gases must be treated in accordance with Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer <sup>(4)</sup>.
  - gas discharge lamps: The mercury shall be removed.
3. Taking into account environmental considerations and the desirability of reuse and recycling, paragraphs 1 and 2 shall be applied in such a way that environmentally-sound reuse and recycling of components or whole appliances is not hindered.
4. Within the procedure referred to in Article 14(2), the Commission shall evaluate as a matter of priority whether the entries regarding:
  - printed circuit boards for mobile phones, and
  - liquid crystal displays
 are to be amended.

<sup>(1)</sup> OJ L 243, 24.9.1996, p. 31.

<sup>(2)</sup> OJ L 343, 13.12.1997, p. 19.

<sup>(3)</sup> OJ L 159, 29.6.1996, p. 1.

<sup>(4)</sup> OJ L 244, 29.9.2000, p. 1. Regulation as last amended by Regulation (EC) No 2039/2000 (OJ L 244, 29.9.2000, p. 26).



## ANNEX III

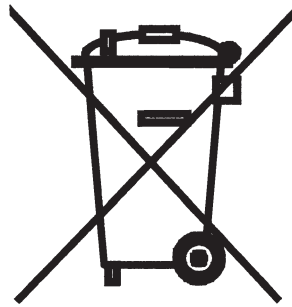
**Technical requirements in accordance with Article 6(3)**

1. Sites for storage (including temporary storage) of WEEE prior to their treatment (without prejudice to the requirements of Council Directive 1999/31/EC):
  - impermeable surfaces for appropriate areas with the provision of spillage collection facilities and, where appropriate, decanters and cleanser-degreasers,
  - weatherproof covering for appropriate areas.
2. Sites for treatment of WEEE:
  - balances to measure the weight of the treated waste,
  - impermeable surfaces and waterproof covering for appropriate areas with the provision of spillage collection facilities and, where appropriate, decanters and cleanser-degreasers,
  - appropriate storage for disassembled spare parts,
  - appropriate containers for storage of batteries, PCBs/PCTs containing capacitors and other hazardous waste such as radioactive waste,
  - equipment for the treatment of water in compliance with health and environmental regulations.

## ANNEX IV

**Symbol for the marking of electrical and electronic equipment**

The symbol indicating separate collection for electrical and electronic equipment consists of the crossed-out wheeled bin, as shown below. The symbol must be printed visibly, legibly and indelibly.



# End-of-Life Recovery of Mercury From Cars and Light Trucks

ACCA Annual Meeting  
October 8, 2003



## Alliance Members

- BMW Group
- DaimlerChrysler
- Ford Motor Company
- General Motors
- Mazda
- Mitsubishi
- Nissan
- Porsche
- Toyota
- Volkswagen

## EU End-of-Life Directive

- §4.1 Manufacturers shall be encouraged to promote “the design and production of new motor vehicles which take into full account and facilitate the dismantling, reuse and recovery, in particular recycling, of end-of-life vehicles, and their components and materials.”

## EU End-of-Life Directive

- §5.4 “Member States shall take the necessary measures to ensure that producers meet all, or a significant part of the costs of the implementation of this measure.”

## EU End-of-Life Directive

- §4.2 “Member States shall ensure that materials and components of vehicles put on the market after 1 July 2003 do not contain lead, mercury, cadmium, or hexavalent chromium other than in cases listed in Annex II and under the conditions specified therein.”

## Recovery Quotas

|                                   | 2006  | 2015  |
|-----------------------------------|-------|-------|
| Re-use and Recycling of Materials | > 80% | > 85% |
| Energy Recovery                   | < 5%  | < 10% |
| Recovery                          | > 85% | > 95% |
| Landfill                          | < 15% | < 5%  |

## The Good News

- Approximately 95% of the vehicles on U.S. roads enter the recycling infrastructure
- Recycling for other products is much lower:
  - 61% for aluminum cans
  - 48% for paper products
  - 20% of glass products

## Recycling Driven By Economics

- Auto Recycling business in the U.S. has annual sales of \$8.2B
- 82-84 % of the weight of cars is currently recycled today with no mandate
- Provides consumers with cheaper replacement parts for repairs

## The Dismantling Process

- Dismantle the car
  - Sell materials (batteries, catalysts)
  - Sell Parts (engines, transmissions, front clips, etc.)
  - Reuse/Recycle (refrigerant, oil, gas, coolant, etc.)
  - Vehicle hulk is sold to shredders
  - Dispose (old worn out tires, mercury)

## Annual Material Reuse

- 20 million gallons of oil
- 40 million tires
- 12 million tons of steel
- 0.8 million tons of nonferrous metals, such as aluminum, copper, zinc, and magnesium

## Mercury in the U.S.

- The Environmental Community would like to see EU Directive type of controls in North America
- Primary focus is in the New England states and the Eastern Canadian provinces
- Flawed data on mercury use in autos is pushing states to adopt auto only requirements

## Mercury Use in U.S. Autos

| Application           | Amount Used    | Status of Use                    |
|-----------------------|----------------|----------------------------------|
| Electrical switches   | 0.8-1.0 gm     | Ended in 2002                    |
| HID lamps             | 0.0005 gm      | Alternatives under investigation |
| Video Display Screens | 0.002-0.005 gm | Same as above                    |

## Legislative Activity

- Legislative activity has been going on for about four years
- Very few bills have passed – mostly those that are non-controversial – ban use in schools, glass thermometers and novelty items

## Ban on Electrical Switches

| <u>State</u> | <u>Effective Date</u> |
|--------------|-----------------------|
| California   | January 1, 2005       |
| Maine        | January 1, 2003       |
| Oregon       | January 1, 2006       |

Connecticut, Rhode Island, and Vermont restrict the amount of mercury per component.



## Auto Industry Being Singled Out

- Virtually all industries and governments used mercury at some point in the past
- Environmentalists have over estimated the amount of mercury in autos – sold this idea to legislators
- Five states currently have legislation pending focused only on the auto industry

## Automaker/Michigan DEQ Study

- To clarify some of the erroneous claims being made, the industry worked with the Michigan Department of Environmental Quality and dismantlers in the state.
- Study looked at about 1500 cars ranging in age from 1971 to 2003 model years

## MI DEQ Study Results

- Switch assemblies quickly removed using simple tools
  - As part of initial processing – 29 seconds
- No switch assemblies showed signs of mercury leakage prior to pellet removal
- Under Universal Waste Laws, storage and record keeping burdens are minimal

## Facts About Mercury Pollution

- Global mercury emissions are between 2,200 and 2,400 tons annually, with 70 percent coming from coal-fired power plants. Most of these emissions come from Asia and Africa.  
*Global Mercury Emissions, UNEP Report, December 2002*

## Estimated Mercury Emissions

- Utility Boilers – 30%
- Municipal Waste Combustors – 17%
- Commercial/Industrial Boilers – 16%
- Electric Arc Furnaces – 10%
- Misc. Services – 9%
- Medical Waste Incinerators – 9%
- Manufacturing Services – 9%

## What Steps Has U.S. EPA Taken?

- Municipal Waste Combustors (MWCs) emitted about 20 percent of total national mercury emissions into the air in 1990. EPA regulations to control these emissions were promulgated in 1995 and completely phased-in by 2000. **The reduction from MWCs is 90 percent.**

## What Steps Has U.S. EPA Taken?

Medical Waste Incinerators (MWIs) emitted about 24 percent of total national mercury emissions into the air in 1990. EPA regulations were promulgated in 1997 and completely phased-in in 2002. **These regulations resulted in a reduction of 94 percent.**

## The Most Important Point

- **U.S. Industrial demand for mercury dropped 75 percent from 1988 to 1997** due to voluntary actions by industry and by actions of State and Federal requirements to eliminate mercury use.

*From EPA's Mercury website*

[www.epa.gov/mercury/information.htm](http://www.epa.gov/mercury/information.htm)

## Removal of Mercury Switches from Motor Vehicles

- Appropriate time for removal is at the vehicle's end of life
- Should become part of the vehicle dismantler's standard process (removal time is minimal)
- Removal while the vehicle is in service is more costly, redundant and not necessary because the switches don't leak

## U.S Auto Industry View on Mercury

- Global problem – local bans or restrictions on automotive mercury will have little effect
- Phased sales restrictions are preferred over sales bans
- Automotive switch use has ended
- Remaining applications use very small amounts and mercury-free alternatives are under development

## What is the Federal Government's Role?

- The EPA needs to take the lead on establishing a storage program for mercury and potentially other hazardous materials that cannot be destroyed – recycling is not the answer
- This could be done through contracts with those currently in the retorting business

## Federal Government Role (cont'd)

- Some Federal oversight on State programs would be helpful
- EPA could regulate auto dismantlers at a national level – unlikely to happen – new efforts are difficult to get in place
- But EPA could enforce the Federal Storm Water Permits

## Auto Industry Perspective on State Role

- Most states have rules that can be used to regulate the dismantler
- This wouldn't require a lot of resources – enforcement can be creative
- State can and should be the main enforcer – since auto recycling business is local

## What Should You Learn from This?

- State budgets are hurting and they are looking for ways to push costs off on others
- It is attractive for a state to push off the cost of a waste stream back to the manufacturer of the product
- The auto industry is a big industry and an early target, but others will follow in the future

## Summary

- The auto industry and the auto recyclers have worked closely together in the past – need to continue to do so in the future
- It is to the benefit of both industries – and the U.S. -- to have a robust and economically vehicle recycling program