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EUROPEAN UNION (EU) ELECTRICAL and ELECTRONIC PRODUCTS DIRECTIVES:

Directive on Waste Electrical and Electronic Equipment (WEEE)

Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Overview

After years of debate, two directives governing waste from electrical and electronic equipment and the content of such products were adopted by the EU and became effective February 13, 2003. The EU's 15 member states* — all of Western Europe except for Norway and Switzerland — must implement these directives in their own countries, by means of laws, regulations, or administrative action, by August 13, 2004. Ten additional countries† are expected to become members of the EU in May 2004 and will ultimately have to implement these directives as well.

The EU chose to target waste electrical and electronic equipment because it is one of the fastest-growing waste streams. The EU estimates its growth at three times that of the average municipal waste stream overall. Over 90 percent of this waste goes to disposal facilities — incinerators and landfills — instead of being reused or recycled. Because of the toxic materials it contains, electrical and electronic waste contributes a large proportion of the pollutants that enter the soil, air, and water from these facilities. The WEEE and RoHS Directives aim to substantially reduce the amount of electrical and electronic equipment entering incinerators and landfills and to eliminate the hazardous substances these products contain.

The EU does not impose the requirements of its directives directly on companies or consumers, but rather on its member states. It is the responsibility of the member states to implement policies to ensure compliance with EU directives. The EU can impose penalties on member states that fail to comply.

The legal basis of the WEEE Directive is environmental protection. This means that the EU sets a minimum standard and member states can choose to implement more restrictive policies. For example, a country may set higher recycling targets than those contained in the WEEE Directive and/or require that they be achieved by an earlier date. The legal basis of the RoHS Directive is the elimination of trade barriers. In this case, member states may *not* implement more restrictive policies. For example, they cannot require the removal of hazardous substances other than those addressed in the RoHS Directive or require their removal sooner than the date specified in the directive, unless they have an explicit exemption.

* Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

† Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

The WEEE Directive

The WEEE Directive is very broad in scope, covering virtually all electrical and electronic equipment used by consumers or intended for professional use that may end up in the municipal waste stream, including products sold in the EU from abroad and products sold electronically. There are ten categories of products covered:

1. Large household appliances (refrigerators, washing machines, stoves, etc.)
2. Small household appliances (vacuum cleaners, toasters, hair dryers, etc.)
3. Information and telecommunications equipment (computers and peripherals, cell phones, calculators, etc.)
4 Consumer equipment (radios, TVs, stereos, etc.)
5. Lighting (fluorescent lamps, sodium lamps, etc.)
6. Electrical and electronic tools (drills, saws, sewing machines, etc.)
7. Toys, leisure, and sports equipment (electric trains, video games, etc.)
8. Medical devices (ventilators, cardiology and radiology equipment, etc.)
9. Monitoring instruments (smoke detectors, thermostats, control panels, etc.)
10. Automatic dispensers (appliances that deliver products such as hot drinks).

Extended Producer Responsibility (EPR) and Design

To encourage designs that facilitate repair, reuse, disassembly, and recycling, the WEEE Directive establishes the principle of EPR for dealing with this waste stream. Producers are financially responsible for taking back their own products at end of life and managing them in accordance with the directive. ("Producer" is defined as the brand name on the product or the importer of the product.) Producers may form a collective system to fulfill their obligations. They may not use design features that prevent products from being reused unless such features provide overriding safety or environmental benefits.

Retailers are supposed to provide free take-back on an "old for new" basis. For example, a consumer buying a new TV may bring back an old TV. However, the directive allows member states to waive this provision.

Separate Collection

A primary goal of the directive is "to minimize the disposal of WEEE as unsorted municipal waste and to achieve a high level of separate collection of WEEE." To this end, **by August 13, 2005, member states must ensure that there are systems in place, financed by producers, to separately collect waste electrical and electronic equipment from end users. By December 31, 2006, this equipment must be separately collected from private households at an average rate of at least 4 kg (8.8 lbs) per person per year.** The EU will set a new target by December 31, 2008. Convenient collection points must be be set up where municipalities can deposit waste equipment collected from households or consumers can return their waste equipment free of charge.

Management of Waste Electrical and Electronic Equipment

Management systems may be organized by producers on an individual or collective basis. The directive sets separate targets for reuse/recycling and recovery (which includes waste-to-energy recovery), based on amounts collected by weight. **Producers must give priority to reuse, and targets must be achieved by December 31, 2006.***

Member states must ensure that records are kept on the amounts of materials entering and leaving treatment, recycling, and recovery facilities. The best available treatment, recycling, and recovery techniques must be used. Member states must also ensure that treatment facilities obtain all relevant permits from the appropriate authorities.

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* Greece and Ireland, because of lack of recycling infrastructure, may apply for an extension.

December 31, 2006, Targets for Recovery and Reuse/Recycling, by weight

Product Category	Recovery (%)	Reuse/Recycling (%)
Large household appliances	80	75
Small household appliances	70	50
Information and telecommunications	75	65
Consumer equipment	75	65
Lighting	70	50
Tools	70	50
Toys, Leisure, Sports	70	50
Medical equipment	NA*	NA*
Monitoring instruments	70	50
Dispensers	80	75

* Target to be set by December 31, 2008.

Any exports of waste electrical and electronic equipment for treatment must comply with EU and OECD (Organisation for Economic Cooperation and Development) regulations on the export of waste. Exported equipment will not count toward recovery and reuse/recycling targets unless the exporter can prove that the waste treatment methods used meet the requirements of the directive.

The directive also specifies many substances and components that must be removed from all separately collected waste electrical and electronic equipment. These include polychlorinated biphenyls (PCBs), mercury, printed circuit boards in cell phones, plastics that contain brominated flame retardants, and certain liquid-crystal displays (LCDs).

Financing

Producers are responsible for the costs of picking up waste electrical and electronic equipment from collection facilities and for refurbishing waste products for reuse or for recycling and recovery.

For "historical" products" (i.e., those put on the market before August 13, 2005), the costs of waste management are to be shared by all producers in existence at the time those costs are incurred. These producers may impose a separate "visible fee" (one that is explicitly designated, perhaps on the price tag) to cover these costs for eight years (ten years for large household appliances). End users other than households may be made partly or totally responsible for financing the management of historical products.

For new products (i.e., those put on the market after August 13, 2005), producers have "individual responsibility." That is, they must pay the cost of managing their own products. They can do this through programs set up by individual companies or through participation in collective schemes. No visible fees are permitted to fund the management of waste from new electrical and electronic products.

When producers put a new product on the market, they must provide a financial "guarantee" that

waste management of the product will be paid for. Producers can make good on this guarantee by participating in a producer responsibility organization (PRO), paying recycling insurance, or setting up a special bank account for this purpose.

Labeling and Product Information

Every "new" product must bear a label that (1) verifies that it was put on the market after August 13, 2005, (2) verifies that it will be separately collected, and (3) bears the name of the producer. The EU intends to prepare standards for this label.

Producers must provide information to consumers on the collection systems available and on the environmental and health impacts of hazardous substances contained in waste electrical and electronic products.

Producers must also provide information to facilitate the environmentally sound reuse, recycling, and treatment of waste electrical and electronic products. Such information includes the identity of components and materials and the location of dangerous substances inside a product.

Reporting

Member states must establish a register of producers and collect annual information on the amounts of electrical and electronic equipment that are put on the market, collected, reused, recycled, and recovered. They must transmit this information to the EU Commission every two years. The EU will establish a standard format for this reporting. The first set of information will cover the years 2005 and 2006.

Enforcement

Member states must establish inspection and monitoring systems and impose effective penalties for lack of compliance.

The RoHS Directive

The RoHS Directive is a companion to WEEE and its scope is similar — products covered by WEEE are covered by RoHS, with the exception of medical and monitoring equipment, which will be included by February 13, 2005. Definitions of terms, implementation by member states, and the role of member states in imposing penalties are the same for both directives.

The RoHS Directive states that even if all waste electrical and electronic equipment were collected separately and recycled, its toxic content would pose risks to health and the environment. It calls for the substitution of hazardous substances with safer materials, which it notes is likely to both increase the profitability of recycling this waste and reduce the health impacts on workers at recycling plants.

Prohibited Substances

By July 1, 2006, no new electrical and electronic equipment put on the market may contain lead, mercury, cadmium, or hexavalent chromium. Polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) — two types of flame retardant — are also prohibited. Countries that already have restrictions or prohibitions on the use of these substances in electrical and electronic equipment may keep them in place prior to July 1, 2006.

Exemptions

An Annex to the directive provides for certain exemptions. These must be reviewed at least every four years. Addition of any new exemptions requires an amendment to the directive.

Included in the current list of exemptions are some uses of mercury in fluorescent bulbs, lead in the glass used in CRTs, and lead in the solder used in such applications as servers and other network infrastructure.

Review

The directive will be reviewed by February 13, 2005, taking into account new scientific evidence. Expanding the list of prohibited substances will be considered.