

## Extended Producer Responsibility (in the EEE\* industry)

\* EEE = Electric and Electronic Equipment

### Producer responsibility

Producer responsibility is the act of making the 'producer of a product' responsible for the product throughout its entire life cycle, including the disposal at end of life.

In the past in the EU, the company or individual disposing of waste was responsible for the cost associated with disposal or recycling. The general public paid for waste management services through council tax payments and businesses paid waste collection companies to remove and manage their waste. In the latest EU directives it will be the 'producers' of for instance electronic and/or electrical equipment who will be paying for the management of their products once they become waste.

### EU Directives

EU Directives are addressed to Member States, and do not, as a rule, confer rights or impose obligations on Community citizens. Rights and obligations for citizens (and companies) flow only from the measures enacted by the authorities of the Member States to implement the directives.

EU directives are implemented in EU member states by means of national Decrees and Regulations. (Besluiten en Richtlijnen)

**Directives based on Article 95** of the European Community Treaty, are intended to eliminate diverging national laws that might constitute a barrier to trade or distort conditions of competition in an economic sector. This means that national legislation enacting it should be the same in all Member States. However, the EU has no influence on how Article 95 directives are enforced or the penalties set by the individual countries.

**Directives based on Article 175** of the European Community Treaty, allows the EU Commission and EU Parliament to establish a set of common requirements among the Member States, while also allowing each country to go beyond the provisions of the Directive when developing national legislation.

### Who is the producer?

- A producer is someone who manufactures and sells under their own brand, resells under their own brand or imports goods into the;
  - EU (RoHS – REACH – ECO design) -> art 95 directives
  - Local EU state (WEEE – Packaging - Batteries) -> art 175 directives

### Consumer product or Professional product? - B2C or B2B?

The definition in most of the EPR directives is:

- from private households
- **not** from private households

### **EPR Directives (in the EEE industry)**

- [WEEE](#) Directive 2002/96/EC
- [RoHS](#) Directive 2002/95/EC
- [Batteries](#) Directive 91/157/EEC and 2006/66/EC
- [REACH](#) Regulation (EC) No 1907/2006 Directive 2006/121/EC
- [ECO-design](#) Directive 2005/32/EC
- [Packaging](#) Directive 2004/12/EG
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### **Impact of the EPR directives**

### **Issues**

### **Roll of the collective organizations**

## **RoHS & WEEE: Aims**

The EC Directives on WEEE and RoHS aim to minimize the environmental impact of electrical & electronic equipment (EEE)

### **WEEE Aims**

- Reducing the waste from electrical and electronic equipment
- Increasing recovery and recycling rates of WEEE
- Improving the environmental performance of all stakeholders involved in the life cycle of EEE

### **RoHS Aims**

- Reduce the environmental impact of EEE by restricting the use of certain hazardous substances during manufacture

## **WEEE Directive**

Directive 2002/96/EC, 27 January 2003, on **Waste Electrical and Electronic Equipment**

The WEEE directive, Waste Electrical and Electronic Equipment, concentrates on the recyclability of electrical and electronic products, and states that, from 13 August 2005 onwards, the “producer” is required to finance the collection, treatment and recycling and recovery of all WEEE that he “put’s on the market”.

The WEEE Directive is an Article 175 Directive, which allows EU member countries to develop their own implementation approaches. In fact, the WEEE Directive sets minimum criteria that, for example, member States may exceed if they wish. However, this means that the actual obligations, and thus implementation strategies, for producers may vary significantly among the member States into which their products are put on the market.

### **WEEE Directive –Scope**

All equipment dependent on electrical currents or electromagnetic fields in 10 indicative categories as listed in Annex IA to directive 2002/96/EC:

1. Large household appliances (Refrigerators, washing machines, etc.)
2. Small household appliances (Vacuum cleaners, toasters, clocks, etc.)
3. IT and telecommunications equipment (Personal computers, printers, telephones, etc.)
4. Consumer equipment (Radio sets, television sets etc.)
5. Lighting equipment (Luminaries for fluorescent lamps with the exception of luminaries in households, low pressure sodium lamps etc.)
6. Electrical and electronic tools (Drills, sewing machines, etc.)
7. Toys, leisure and sports equipment (Electric trains, video games, coin slot machines, etc.)
8. Medical devices with the exception of all implanted and infected products (Dialysis, etc.)
9. Monitoring and control instruments (Smoke detector, thermostats, etc.)
10. Automatic dispensers (Automatic dispensers for drinks, etc.)

### **WEEE Directive Impact**

Effective August 13, 2005, products covered by Annex 1A of European Union directive 2002/96/EC on waste electrical and electronic equipment (WEEE) and amending directive 2003/108/EC should be marked according to the directive, and systems need to be in place for the collection, treatment, and recovery of the products.

### **WEEE required actions by the “producer”**

- Marking of applicable products (crossed out waste bin with block)&(producer name)
- Availability of information on the material content of the product and disassembly instructions. (to be provided at request)
- Application for approval of the “waste management system” and method of financing the system, individually by the producer or participation in an approved collective system.
- Take back of EOL equipment (individually or via a collective system)
- Reporting of quantities per category “put on the market” and waste returns.
- Reporting of percentages of recycled materials (equal or better then defined goals)

**Difficulties within the supply chain**

- Imported products not properly marked for WEEE need to be unpacked marked and repacked by the “producer”
- For imported products the required information for disassembly needs to be produced.
- Transparency of the EOL reverse logistics
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## RoHS Directive

Directive 2002/95/EC of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

**RoHS** stands for the **R**estriction of **H**azardous **S**ubstances and bans the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in electrical and electronic products. This directive came into force on July 1, 2006.

RoHS is an Article 95 Directive (also known as a "single market Directive") and is therefore required to be interpreted and implemented exactly the same by all EU member states. The goal of the "single market" approach is to harmonize implementation and to prevent multiple product design requirements and standards. However, the EU has no influence over how it is enforced by member states or how penalties are applied by the various member states. Issues of scope and exemption interpretation are the jurisdiction of the EU Court, where all disputes on these matters will be ruled.

Effective July 1, 2006, the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBBs) or polybrominated diphenyl ethers (PBDEs) in products need to be either fully eliminated, or restricted to the levels permitted by European Union directive 2002/95/EC on the restriction of use of certain hazardous substances (RoHS) in electrical and electronic equipment.

## Products under scope of RoHS

The products under scope of the RoHS Directive must meet the definition of "EEE" in the WEEE Directive and fall into one of the following categories: (appendix IA to 2002/96/EC)

1. Large household appliances (Refrigerators, washing machines, etc.)
2. Small household appliances (Vacuum cleaners, toasters, clocks, etc.)
3. IT and telecommunications equipment (Personal computers, printers, telephones, etc.)
4. Consumer equipment (Radio sets, television sets etc.)
5. Lighting equipment (Luminaries for fluorescent lamps ~~with the exception of luminaries in households, low pressure sodium lamps etc.~~)
6. Electrical and electronic tools (Drills, sewing machines, etc.)
7. Toys, leisure and sports equipment (Electric trains, video games, coin slot machines, etc.)
- ~~8. Medical devices with the exception of all implanted and infected products (Dialysis, etc.)~~
- ~~9. Monitoring and control instruments (Smoke detector, thermostats, etc.)~~
10. Automatic dispensers (Automatic dispensers for drinks, etc.)

Note: Categories 8 and 9 should not be included under scope of the RoHS Directive any time earlier than 2010.

## RoHS Exemptions

The European Commission has appointed a Technical Adaptation Committee (TAC) to review and vote on submitted requests for exemptions to the RoHS Directive while taking into account stakeholder comments. The exemptions range from the use of hazardous substances in small components to all lead in solder for finished products (e.g. network

infrastructure devices). An important development is that some exemptions have been or will be asked to be removed as technology matures

‘Spare parts’ that are used for the repair or reuse of electrical and electronic equipment put on the market before 1 July 2006, (plus capacity extensions and/or upgrades)

### **RoHS enforcement.**

An agreement has been put forward between Member States' enforcement bodies that the following process will be followed:

The 'Producer' (Importer) in the member state who first imports the EEE product is responsible for the RoHS compliance of that product. If another member state finds this EEE product to be non compliant then the enforcement agency in the member state where the product was imported would be informed and the responsibility for further enforcement action would be their responsibility. Any action would be taken against the original 'Producer' and not on companies in other member states who have purchased the product from them. If the company is part of the same group and is represented in a number of member states it is still the point of importation into Europe and that member states enforcement agency who would take any actions required.

A manufacturer is considered to be self-declaring his compliance with RoHS by placing his product on the EU market.

### **Difficulties within the supply chain**

Many difficulties arise in the supply chain as the "producers" (the one legally responsible for compliance) are in most cases a distributor and not the brand owner, and therefore must push back through the supply chain to maintain their due diligence in compliance documentation. It is not uncommon for a mistake or error to occur in the supply chain such as the incorrect finish being applied to metal, the wrong resistor delivered to the contract manufacturer, cadmium in the pigments of the product label, or an intentional/unintentional error in certification of compliance. Verification of RoHS compliance through spot checking and testing is recommended. For exporting brand owners or suppliers, if their product is found to be non-compliant while in a customer's possession, the exporting brand owner faces loss of sales, returned product, and likely qualification of a competitor's product.

*The error made by Sony in 2001, in regards to a Dutch specific cadmium ban, involved a single cable in their product. This error, made by their component supplier, led to a multi-million dollar recall and significant negative press.*

Product scope also cause confusion in the supply chain as the distributor will consider a product to be in scope of the RoHS Directive in conflict with the brand owner's opinion and vice versa. The above instance is most common when a product is defined in Category 9 (Monitor and Control Instruments) and Category 6 (Electrical and Electronic Tools) as their functions can be very similar in application. The issue is a product falling into Category 6 is under scope of the RoHS Directive while a product falling into Category 9 is not.

**Any impact on pre RoHS/WEEE products?**

Yes, for WEEE. Note that Article 9 of WEEE was amended. An interpretation of the amended version is as follows:

For non-household WEEE from products put on the market before 13 August 2005 (historical waste), the financing of the cost of collection, treatment and recycling of one equivalent product shall be provided for by producers when supplying a new product. Any other historical non-household WEEE will be the responsibility of the last user. Member States may, as an alternative, provide that users other than private households also be made, partly or totally, responsible for this financing and France has assigned responsibility to users for all historical non-household WEEE.

No, in general for RoHS. However, availability of pre-RoHS spare parts could possibly become an issue, as could the importation of second-hand semiconductor equipment into Europe. The EU FAQ defines “put on the market” (from Article 10.3 of WEEE and Article 4.1 of RoHS) as “the initial action of making a product available for the first time on the Community market,” and that “making a product available for the first time” refers to “each individual piece of equipment and not to the launch of a new product or product line.”

The EC’s lawyers recently stated that if a product was originally placed on the market outside the EU before 1 July 2006 and then refurbished and placed on the EU market after 1 July 2006 (the first time in the EU) then it must comply with RoHS.

**WEEE & RoHS What is next?**

- USA, China, Japan, Taiwan, Australia, etc.?
- Same requirements?

There is considerable activity worldwide on related legislation. Concern about chemicals in the environment is widespread in many countries and extends well beyond the six materials listed in RoHS. For example, the Joint Industry Guide lists 24 material/substance categories as being of concern. RoHS and WEEE are only part of the beginning of new requirements.

In the European Union itself, legislation is being written based on a white paper on a strategy for a future chemicals policy, at the heart of which is the new European regulatory framework, REACH.

## **Batteries Directive**

Directive 2006/66/EC of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC

The primary objective of this Directive is to minimize the negative impact of batteries and accumulators and waste batteries and accumulators on the environment, thus contributing to the protection, preservation and improvement of the quality of the environment. The legal base is therefore Article 175(1) of the Treaty. However, it is also appropriate to take measures at Community level on the basis of Article 95(1) of the Treaty to harmonize requirements concerning the heavy metal content and labeling of batteries and accumulators and so to ensure the smooth functioning of the internal market and avoid distortion of competition within the Community.

### **Batteries directive Scope**

Applies to ALL type of batteries, regardless of shape, volume, weight, material composition or use. Most of the new requirements will be in force on September 26 2008.

### **Batteries directive Impact**

- Marking (Crossed out Waste bin – Capacity – Symbol for hazardous substances)
- Design appliances in such a way that waste batteries can be readily removed
- Include instructions for safe removal of the batteries
- Inform the end-users of the type of the incorporated battery
- The prohibition of batteries containing hazardous substances (Cadmium 26/08/2008)
- Application for approval of the “waste management system” and method of financing the system, individually by the producer or participation in an approved collective system.
- Take back of EOL batteries (individually or via a collective system)
- Reporting of quantities per category “put on the market” and waste returns.
- Higher recycling objectives under the new decree and regulations

In the Netherlands there is one approved management system for used batteries “Stibat”

## **REACH Directive**

Registration, Evaluation and Authorisation of Chemicals.

Directive 2006/121/EC of 18 December 2006 and Regulation (EC) No 1907/2006

REACH is an Article 95 Directive (also known as a "single market Directive") and is therefore required to be interpreted and implemented exactly the same by all EU member states.

REACH, which will oblige producers to register all those chemical substances produced or imported above a total quantity of 1 tonne per year. Registration will affect about 30,000 substances.

For more hazardous substances, producers will have to submit a substitution plan to replace them with safer alternatives. When no alternative exists, producers will have to present a research plan aimed at finding one.

The regulation will enter into force progressively from June 2007, and the registration process will take 11 years to be completed. The calendar for registration depends on the risk of the substance and the quantity produced. All covered substances will have to be registered by 2018.

REACH also creates a new Chemicals Agency, to be based in Helsinki, which will be responsible for the authorization process. The calendar for registration depends on the risk of the substance and the quantity produced. All covered substances will have to be registered by 2018.

### **REACH Impact**

- Producers / Importers / Distributors / Users
- Documentation
- Information
  - o Downstream – about the substance and its dangers
  - o Upstream – about the use of the substance
- Registration and authorization
- Innovation (alternative substances)
- Ban on selected hazardous substances

## **Packaging Directive**

Directive 2004/12/EC of 11 February 2004 amending Directive 94/62/EC on packaging and packaging waste.

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 18 August 2005.

### **The purpose of this directive is so that;**

- Packaging shall be produced in such a way that its volume and weight is limited to the level required in order to maintain a good level of safety and hygiene
- Producers shall arrange systems for the collection of all packaging waste that arises
- Packaging waste shall be taken care of in an environmentally acceptable way, and
- Meet the recycling objectives for collected packaging waste

### **Scope**

“Packaging” shall mean all products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. ‘Non-returnable’ items used for the same purposes shall also be considered to constitute packaging.

### **Required actions by the “producer”**

- Application for approval of the “waste management system” and method of financing the system, individually by the producer or participation in an approved collective system.
- Take back of packaging waste (individually or via a collective system)
- Reporting of quantities per category “put on the market” and waste returns.
- Reporting of percentages of recycled materials (equal or better than defined goals)
- Prevention plan for reducing volume and weight of packaging waste.

## **ECO design Directive**

Directive 2005/32/EC of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council

ECO design is an Article 95 Directive (also known as a "single market Directive") and is therefore required to be interpreted and implemented exactly the same by all EU member states.

Energy-using products (EuPs) account for a large proportion of the consumption of natural resources and energy in the Community. 'Ecodesign' means the integration of environmental aspects into product design with the aim of improving the environmental performance of the EuP throughout its whole life cycle.

### **ECO design marking and declaration of conformity**

Before an EuP covered by implementing measures is placed on the market and/or put into service, a CE conformity marking shall be affixed and a declaration of conformity issued whereby the manufacturer or its authorised representative ensures and declares that the EuP complies with all relevant provisions of the applicable implementing measure.

### **ECO design scope**

- The EuP shall represent a significant volume of sales and trade, indicatively more than 200 000 units a year within the Community according to most recently available figures.
- The EuP shall, considering the quantities placed on the market and/or put into service, have a significant environmental impact within the Community.
- The EuP shall present significant potential for improvement in terms of its environmental impact without entailing excessive costs.

Initial identified EuPs offering a high potential for cost-effective reduction of greenhouse gas emissions, such as heating and water heating equipment, electric motor systems, lighting in both the domestic and tertiary sectors, domestic appliances, office equipment in both the domestic and tertiary sectors, consumer electronics and HVAC (heating ventilating air conditioning) systems.

Implementing measure to reduce stand-by losses for a group of products.

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 11 August 2007.

The goal is to have implementation measures in force on Jan 1<sup>st</sup> 2008

## Impact of the EPR directives

- Product
  - Design to eliminate banned materials (RoHS – Reach – Batteries)
  - Design for reuse of modules/components
  - Design for disassembly (cost saving at EOL or mandated (batteries))
  - Design for lower energy consumption (ECO-design)
  - Manufacturing to eliminate banned materials (RoHS – REACH)
  - Marking (WEEE – Batteries – ECO design)
  - Testing and certification (RoHS – ECO design - REACH)
- Documentation
  - Registration
    - Product or material (Reach)
    - Management and control of the waste chain (WEEE – Batteries – Packaging)
  - Information
    - For product disassembly at EOL (WEEE - Batteries)
    - Used materials (RoHS – Reach - Batteries)
    - Quantity of products “put on the market” (WEEE – Batteries – Packaging)
    - Quantity of “waste” products collected (WEEE – Batteries – Packaging)
    - Percentages of recycled materials (WEEE – Batteries – Packaging)
- Supply chain
  - Market limitations (RoHS – Batteries – REACH – ECO design)
  - Reverse logistics for EOL (WEEE – Batteries – Packaging)
  - Reuse of modules and components (RoHS)

### **Roll of the collective organizations**

- Information distribution / Communication
- Represent collective interest to local government en EU commissions
- Take over (some of) the operational obligations
  - Mandatory registration of the “system”
  - Consolidated mandatory reporting
  - Collective financing of the required activities
  - Waste return logistics and recycling

### **Pro and Cons of a collective organization**

- Pro
  - Relief individual companies
    - Administrative burden (registration and reporting)
    - Eliminate financial risk (upfront collective financing)
    - Operational tasks (return logistics)
  - Easier enforcement by the local government, more operational consistency
  - Better communication to the “producers” via the collective(s)
  - Producer’s interests are more powerful represented.
- Con
  - No individual motivation to “reduce” waste or “improve” reuse.
  - No financial motivator to innovate

## Issues

### **The WEEE directive creates an unequal playing field within the EU**

Due to the Article 175 Directives (some variation between EU States is permissible)

The implementation of WEEE in the different EU member states differs significantly.

- Scope and its interpretation
  - What products are included or excluded
- Execution
  - Each EU member state has his own
    - Obligations for registration (no EU wide registration possible)
    - Return logistics methods and organization(s)
- Inter EU business barrier
- EU import barrier

A Major issue for Corporations with EU wide operations

- They need to register in each individual EU member state with different sets of information.
- Scope and interpretation is not consistent between EU member states.
- Inter EU goods transfers (pay and reclaim of “waste disposal levy”)

### **The EU directives WEEE and RoHS should be completely separated from each other.**

- WEEE is an Article 175 Directive, and some variation between EU States is permissible. RoHS, however, is an Article 95 Directive (single market) and so scope and its interpretation should be the same in all EU States.
- The connection between the two directives, specifically about the scope of the directives are conflicting and confusing.
- The aim's and impact of the two directives are completely different.
- The required actions by the “producer” are completely different and sometimes conflicting.
- In general the “producer” for WEEE is another entity then the “producer” for RoHS