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# Recycling and Reuse

## **PACKAGING MATERIAL: EUROPEAN UNION DIRECTIVE**

### INTRODUCTION

The occasional series of international fact sheets on this web page provides summary information on selected topics relevant to the functions and activities of the EPA programs that manage waste, clean up contaminated sites, promote the productive use of land, and address emergencies. An important purpose of the papers is to promote a fuller understanding of actions around the world to protect the environment in relation to these subject areas. The international fact sheets do not establish policy or represent the views of EPA. Each fact sheet provides information and electronic links to other sources of information that can provide the reader with a fuller understanding of the material. For organizational purposes, the fact sheets have been placed in four broad categories:

- Treaties, Directives, and Policies
- New Directions in Program Management
- Innovative Approaches to Environmental Protection
- Emerging Issues

### TOPIC SUMMARY

European policy maker have taken steps to reduce packaging wastes and reuse or recycle these materials. **Packaging wastes** are defined as any material which is used to contain, protect, handle, deliver and present goods, and represent about 17% of the municipal waste stream in Europe. See <http://waste.eionet.europa.eu/waste/#8> . For **directives and other documents** discussed in this fact sheet, see [http://europa.eu.int/comm/environment/waste/packaging\\_index.htm](http://europa.eu.int/comm/environment/waste/packaging_index.htm) and <http://europa.eu/scadplus/leg/en/lvb/l21207.htm>. For additional information on **reuse of packaging material** by EU States, see also <http://ec.europa.eu/environment/waste/studies/packaging/reuse.htm>. For information on **European packaging waste management systems**, see <http://ec.europa.eu/environment/waste/studies/packaging/epwms.htm>. The fact sheet is not comprehensive; rather is provides a starting point for readers interested in investigating the topic.

### BACKGROUND: DEVELOPMENT OF PACKAGING DIRECTIVES

#### **Summary of 1994 Packaging Directive**

Although the European Community first introduced measures on the management of packaging waste in the early 1980's, background on the topic provided in this fact sheet begins with the **1994 Directive on Packaging and Packaging Waste (94/62/EC)**. This directive served to harmonize actions taken by EU nations to manage packaging and packaging wastes, and promote reuse and recycling. The 1994 Packaging Directive focuses on prevention, reuse, recycling, and other forms of recovery. It establishes the rudiments of extended producer responsibility principles, which require manufacturers to play a role in mitigating the post-consumer environmental impacts of products from which they profit.

The 1994 Directive replaces Directive 85/339/EEC on the packaging of liquid beverage containers, and covers all packaging placed on the market in the European Community and all packaging waste, regardless of the material used. The Directive:

- Provides that the Member States take **measures**, including formation of national programs to encourage packaging reuse; **to prevent the formation of packaging waste**
- Reduces **heavy metals** content in packaging
- Requires that countries introduce **systems to return and/or collect used packaging**
- Establishes **recycling targets** and a process for adjusting these goals
- Requires that countries promote **information campaigns**, aimed at the general public and economic operators, to promote recycling
- Requires that countries develop **harmonized data bases** on packaging and packaging waste, to monitor implementation of the Directive.

## Summary of 2004 and 2005 Packaging Directive Amendments

**Directive 2004/12/EC**, adopted in early 2004, formally amends the 1994 Packaging Directive by establishing a deadline of August 18, 2005, for EU States to transpose the 2004 Packaging Directive into law. Directive 2004/12/EC:

- Clarifies the **scope** of “packaging” covered by the directive
- Amends the **timetable to increase recovery target** - increasing the target by 10% to require that a minimum of 60% by weight of all packaged wastes must be recovered or incinerated at waste incineration plants with energy recovery no later than December 31, 2008
- Amends the **timetable to increase recycling target** - increasing the target by 30% to require that, by 31 December 2008, between 55 and 80% by weight of all packaging waste be recycled; replacing a target of 15% as a minimum by weight for each packaging material; Directive 2004/12/EC also establishes the following recycling targets by 31 December 2008 for materials contained in packaging waste: 60 % by weight for glass, 60 % by weight for paper and board, 50% by weight for metals, 22.5 % by weight for plastics, and 15 % by weight for wood
- Extends **attainment dates** for Greece, Ireland, and Portugal, as well as new EU States. **Directive 2005/20/EC**, extends the deadlines in the revised Packaging Directive until December 2012 for 19 New Member States
- Amends the **reporting and revisions timetable**. In February 2005, consistent with a June 30, 2005, deadline in the Directive, the European Commission completed a report on the implementation of the Packaging Directive and on options for increased waste prevention and reuse. By December 31, 2007, the European Parliament and the Council will fix targets for future years.

## Some Key Topics in Amending the 1994 EU Packaging Directive

**Recycling and Recovery Targets.** For all materials besides plastics, most EU member States achieved or surpassed the 1994 Directive's minimum recycling and recovery targets well ahead of the June 2001 deadline. Critics have sought unsuccessfully to increase recycling goals and to eliminate the recovery target in order to discourage incineration. Further, they unsuccessfully advocated both for minimum packaging reuse targets, and for mandatory requirements that producers and traders of packaging cover the costs of their return, collection, reuse, and recycling.

**Package Marking Systems and Indicators.** Article 4 of the 1994 Packaging Directive stipulates that the Commission shall help to promote the prevention of packaging waste formation by encouraging the development of suitable European standards. In 2005, the European Committee for Standardisation (CEN) approved revised versions of all five packaging standards. See <http://www.cenorm.be/cenorm/businessdomains/businessdomains/transportandpackaging/packaging/packaging.asp>.

Article 8 of the 1994 Packaging Directive requires a marking and identification system of packaging materials in order to facilitate collection, reuse, and recovery. In January 1997, the European Commission established the identification system (Commission Decision 97/129/EC). A contentious issue in the 2004 revision of the Directive was introduction of a **Packaging Environment Indicator (PEI)** based on greenhouse gas emissions and waste going to final disposal. Such a PEI could be used as a 'pass/fail' test for entry of new packaging into the EU market. While many in the European Parliament were enthusiastic about developing this proposal, the European Commission recommended further analysis of the PEI idea and further debate among stakeholders before taking action.

**Incineration/energy recovery.** Delegations of Parliament and Council agreed in 2004 when revising the Packaging Directive that incineration in a facility equipped with energy recovery systems may be counted toward achieving recovery targets. The EU hierarchy for waste management, established by the Community Strategy for Waste Management in 1996, is: prevention; recovery (including energy recovery); and disposal (including incineration), in that order of priority. The U.S. EPA's Solid Waste Management Hierarchy identifies source reduction and reuse first; recycling (including composting); and land disposal or combustion last.

## COUNTRY EXAMPLES

National implementation of the Packaging Directive in imposition of packaging design, composition, and manufacturing requirements varies across EU States. For additional information on the effectiveness of these strategies, see a 2005 pilot study by the European Commission: "**Effectiveness of Packaging Waste Management Systems in Selected Counties**" ([http://reports.eea.eu.int/eea\\_report\\_2005\\_3/en](http://reports.eea.eu.int/eea_report_2005_3/en)). Strategies chosen to implement EU packaging directives vary. Below are two examples:

- **Germany.** The Federal Republic of Germany has implemented the EU policy on packaging through its **Ordinance on the Avoidance of Packaging Waste** (Verpackungsverordnung). See <http://www.bmu.de/en/1024/js/download/waste/verpackung/>. Germany has developed extensive requirements for all types of consumer packaging that shift the cost of managing packaging waste from the public sector to private industry. The Ordinance makes industry responsible for packaging at the end of its life cycle, including the costs of collecting, sorting, and recycling packaging after consumers discard it, and calls for retailers to install bins so that customers may leave primary and secondary packaging in stores. It imposes mandatory deposits on non-refillable containers for beverages, washing and cleansing agents, and water-based paints. The Ordinance also rules out incineration for energy recovery as an option. These requirements provide incentives to consider waste management costs in the design of products for sale.

Germany's approach to implementing requirements for packaging waste provides an exemption to the primary packaging regulations for alternative programs. The Duales System Deutschland GmbH (Dual System of Germany), a nonprofit organization, works with waste-management companies to organize the collection and sorting of packaging waste for recycling. An example of such a service is **Green Dot**. See <http://www.packaging-waste.com/greent-dot-background.htm>. Green Dot is employed in nearly 20 EU Member States to help meet packaging requirements that promote recycling and reuse. A green dot on product packaging shows that it complies with packaging regulations. Manufacturers can purchase a license to participate in the Green Dot program, which recovers and recycles packaging on behalf of its licensees. License fees are based on the type and weight of the packaging materials. As long as Ordinance quotas are met, retailers do not have to "take back" primary packaging, and consumers do not have to pay mandated deposits on non-refillable containers.

- [England](#). England has taken a different approach than Germany to packaging waste. England has chosen to implement a unique “shared producer” responsibility, market-based approach in implementing the Packaging Directive that establishes incentives designed to minimize the amount of waste produced. [The 1998 Essential Requirements Regulations](#) specify requirements for packaging placed on the market, which include: minimization of packaging volume and weight; design and use of packaging in a manner that permits its reuse and recovery; and limits on the concentration of lead, cadmium, mercury and hexavalent chromium in packaging. See <http://www.opsi.gov.uk/si/si1998/19981165.htm>. [The 2005 Producer Responsibility Obligations \(Packaging Waste\) Regulations](#) establish shared responsibility among materials producers, packaging manufacturers, packer/fillers, and sellers for recovery and recycling of packaging waste. Recovery and recycling targets under the 2005 law are met according to a certain percentage obligation associated with economic activity. See <http://www.defra.gov.uk/environment/waste/topics/packaging/>. Parties meet their obligation by registering individually with the Environmental Agency or paying a membership fee to participate in an industry-sponsored recovery program. Businesses with a minimum financial turnover must register with the Environment Agency or one of about 30 compliance scheme operators and supply annual packaging flow information to demonstrate regulatory compliance. Packaging Recovery Notes (PRNs), issued when recycling and recovery take place, can be traded among different businesses.

## SOME US ACTIVITIES AND ADDITIONAL RESOURCES

### Packaging Wastes in the United States

EPA estimates that, in 1999, 42 percent of all paper, 40 percent of all plastic soft drink bottles, 55 percent of all aluminum beer and soft drink cans, and 57 percent of all steel packaging are recycled in the United States. See. The US federal government has taken a primarily advisory role in supporting the recycling and reuse of nonhazardous wastes. Many U.S. States and municipalities have enacted laws or programs to further these goals. Further, policies and laws generally have not addressed packaging wastes, *per se*, as a distinct class.

For information on waste reduction, reuse, and recycling, see <http://www.epa.gov/msw/recycle.htm>. Also see <http://www.epa.gov/epaoswer/non-hw/muncpl/reduce.htm#recycle> and <http://www.epa.gov/epr/> (EPA’s web page on product stewardship). EPA and the U.S. Federal government support recycling goals through comprehensive procurement standards designed to promote the use of materials recovered from solid waste. See <http://www.epa.gov/epaoswer/non-hw/procure/index.htm>. The Earth 911 program is a public/private partnership with the U.S. Environmental Protection Agency, all 50 states and several committed organizations and companies that provides geographically-specific environmental information nationwide on recycling programs and locations. See <http://www.earth911.org/master.asp>.