

# EUROPEAN POLICY ON WASTE MANAGEMENT

Angelika Kallia-Antoniou

*National Centre for Environment and Sustainable Development*

*E-mail: [ankallia@auth.gr](mailto:ankallia@auth.gr)*

## 1. GLOBAL SITUATION

The rapid increase in volume and types of waste as a result of urbanization, industrialization and continuous economic growth has become a serious problem at international, national and local level<sup>1</sup>.

The total municipal solid waste generated globally reached 2.02 billion tones in 2006 representing a 7% annual increase since 2003<sup>2</sup>.

The global generation of municipal waste is estimated to rise by 37.3% between 2007 and 2011, which is equivalent to 8% increase per year.

The US Environment Protection Agency estimates that American industrial facilities generate and dispose off approximately 7.6 billion tons of non hazardous industrial solid waste per year.

Waste Electrical and Electronic Equipment (WEEE) or E-waste, is one of the fastest growing waste streams represents 2% of total solid waste.

The World Bank estimates that in developing countries it is common for municipalities to spend 20-50% of their budget on solid waste management, even though 30-60% of urban SW remain uncollected and less than 50% of the population is served.

At international level various multilateral and bilateral treaties and agreements are elaborated, the Basel Convention<sup>3</sup> being the most effective.

## 2. SITUATION IN EU

European waste policy is one of the most extensive and long established in the environmental sphere.<sup>4</sup> The first measures have been adopted in the 1970's.

Each year in the EU, 3 billion tones of waste are thrown away, 90 million tones of which are hazardous. This amounts to about 6 tones of solid waste for every individual european. It is worth mentioning that the household waste is growing steadily 2% per year<sup>5</sup>.

By 2020 the OECD (Organization for Economic Cooperation and Development)<sup>6</sup> estimates we could be generating 45% more waste than we did in 1995.

Most of what we throw away is either burnt in incinerators or dumped into landfill sites (67%).

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<sup>1</sup> United Nations Environment Program, <http://www.unep.or.jp/ietc/SPC/publications.asp>

<sup>2</sup> Global Waste Management Market Report

2007:[http://www.researchandmarkets.com/reportinfo.asp?report\\_id=461875](http://www.researchandmarkets.com/reportinfo.asp?report_id=461875)

<sup>3</sup>The Basel Convention, <http://www.basel.int>

<sup>4</sup>EU waste management legislation,

[http://europa.eu/legislation\\_summaries/environment/waste\\_management/index\\_en.htm](http://europa.eu/legislation_summaries/environment/waste_management/index_en.htm)

<sup>5</sup> Eurostat statistics, [ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

<sup>6</sup>OECD,[http://www.oecd.org/document/41/0,3343,en\\_2649\\_34395\\_38040297\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/41/0,3343,en_2649_34395_38040297_1_1_1_1,00.html)

This waste is the result of non-sustainable modes of production and consumption. The consumption of products, including production, transport, distribution, represents 50% of emissions contributing to climate change.

### 3. Guiding Principles

As waste policy in Europe has evolved over the last 35 years, a set of principles have been developed that help guide the management of waste, as well as the nature of actions to be taken by Public Authorities and Economic Operators in Member States. These principles are the following:

- a) Protecting Health and the Environment
- b) The hierarchy of waste
- c) The proximity Principle
- d) Self sufficiency in disposal
- e) Liability for aftercare
- f) Life cycle thinking

**a. Protecting Health and the Environment**

Waste management and disposal have to be processed without endangering human health and the environment.

**b. The hierarchy of waste**

The production of waste should be prevented (waste reduction).

Waste that cannot be prevented should be re-used, recycled and recovered as much as feasible. Disposal, and specifically land-filling, should be used as little as possible.

**c. The proximity Principle**

The transport of waste should be minimized with waste being disposed as close to the source as possible.

**d. Self sufficiency in disposal**

EU and Member states have to avoid to dispose their waste to others, as far as possible.

**e. Liability for aftercare**

The producer is responsible for paying for the full cost of disposal. To achieve this goal, financial guarantees are required from operators.

**f. Life cycle thinking**

The potential waste generator and the ability to recycle a product should be considered at all stages of its life cycle from design onwards: design-production-distribution-consumption-end of life (upstream measures).

### 4. EU LEGISLATION

According to the 6th Program on the Environment adopted by the E. Commission (2002-2012) waste management is a top priority subject. A Thematic strategy on the prevention and recycling of waste adopted in 2005 [COM (2005) 666].

The EU waste legislation comprises three main elements<sup>7</sup>:

**A. Horizontal legislation:** establishing the overall framework for the management of wastes including definitions and principles

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<sup>7</sup> 2008, Sourcebook on the environmental law, prepared by the Institute for European Environmental Policy, editor: Marc Pallemmaerts.

**B. Legislation on treatment operations:** such as:

landfill Directive 1999/31, incineration Directive 2000/76, Integrated Prevention Pollution Control (IPPC), Directive 2008/1 which set technical standards for the operation of waste facilities.

**C. Legislation on specific waste streams:** including measures to increase recycling or to reduce hazardousness. For example the Directives 91/157 on Batteries and Accumulators, 94/62 on Packaging and Packaging waste, 2000/53 End of Life Vehicles (ELV), 2002/96 on Waste of Electrical and Electronic Equipment (WEEE).

## **A. Horizontal legislation**

### **A.1. Waste Framework Directive (WFD)**

Member States have to develop waste management plans.

The Key elements of the WFD are the following:

- The definition of “waste”: anything that falls into the categories set out in Annex I, “disposal”, “recovery”, “waste management”.
- the principles permitting waste management activities
- adopting BATNEEC: disposal facilities are developed in line with the principle: Best Available Technology Not Involving Excessive Costs
- ensuring that the polluter pays: the producer, or the legal holder, must bear all the costs of disposing of wastes

### **A.2. The hazardous waste Directive**

The classification into hazardous waste is based on the system for the classification of dangerous substances and preparations. The provisions of the previous hazardous waste Directives have been integrated into the WFD 2008/98.

Stricter measures are imposed.

The Directive 2000/532, amended by Decision 2001/573, establishes a list of wastes.

### **A.3. Waste movements (shipments)**

Regulations 259/1993 and 1013/2006. The Regulations monitor and control the shipment of waste within into and out of the EU.

These Regulations are the transposition of the Basel Convention (1989) which establishes worldwide notification requirements for the movement of hazardous waste. The export of hazardous wastes to non-OECD countries has been prohibited after 1998.

The shipment of non-hazardous wastes to non-OECD countries depends on whether the importing country accepts the wastes, as well as on the procedures imposed by the country.

Certain waste are covered by specific legislation, for example:

**a)** Port reception facilities for ship-generated waste and cargo residues:

Directive 2000/59

**b)** Radioactive waste and spent fuel: Directive 2006/117

**c)** Animal by-products not intended for human consumption: Regulation 1774/2002

## **B. Legislation on treatment operations**

### **B.1. The landfill Directive 1999/31**

This Directive sets out requirements in terms of:

- acceptance criteria for landfills

- liability
- permitting
- monitoring
- management and
- aftercare for landfills

Landfills are divided into 3 classes for hazardous waste, for non-hazardous waste and for inert waste.

## **B.2. The Incineration of waste Directive 2000/76**

This Directive sets out requirements and conditions covering the incineration and co-incineration of wastes, as well as limit values and permitting requirements.

Many of the plants that are covered by the Waste Incineration Directive are also covered by the provisions of the Integrated Prevention Pollution Control (IPPC) Directive 2008/1. The IPPC Directive may involve more stringent emission limit values and other conditions.

## **C. Legislation on specific waste streams**

### **C.1. Disposal of PCBs Directive 96/59.**

The Polychlorinated Biphenyls (PCBs) are dangerous not only for their ability to accumulate in the environment, but also for their inability to biodegrade.

The Directive sets out steps to identify PCBs, ensure their disposal and eliminate PCBs from the waste stream.

### **C.2. Waste from Extractive Industries Directive 2006/21**

The Directive sets out specific requirements for the management of waste from mines, quarries and other extractive industries. Financial guarantees from the operators are needed.

### **C.3. Packaging and Packaging waste Directive 94/62.**

This Directive aims:

- to reduce the impact of packaging on the environment
- to harmonize national measures to prevent distortions to competitions and ensure free movement of packaged goods.

### **C.4. Waste Electronic and Electrical Equipment (WEEE) Directive 2002/96 and Restriction of the use of certain Hazardous Substances (ROHS) in Electrical and Electronic Equipment Directive 2002/95.**

According to the **WEEE** Directive producers are responsible for the EEE that they put upon the EU market

The **ROHS** Directive bans lead, cadmium, mercury, hexavalent chromium, PBB and PBDE families of brominated flame retardants in EEE being put on the EU market.

### **C.5. Batteries and Accumulators Directive 91/157 replaced by Directive 2006/66.**

This directive prohibits the placing on the market of certain batteries and accumulators containing hazardous substances. It applies to a wide range of products apart from those used in equipment to protect the security of Member States or for military purposes or in equipment designed to be sent into space.

The Directive covers all types of batteries and accumulators irrespective of their shape, weight, composition or use

**C.6. End-of life Vehicles (ELV) Directives** 2000/53, 2002/525, 2005/437, 2005/438, 2005/637.

In terms of prevention the Directives restrict in the short term the use of certain heavy metals. In the longer perspective the aim is to change the way that cars are designed and produced in the first place.

**C.7. Agricultural use of sewage sludge Directives** 86/278 and 91/692

The Directives regulate the use of sewage sludge in agriculture in order:

- to prevent harmful effects on soil, vegetation, animals and humans and
- to encourage the correct use of sewage sludge.

Member States have to apply maximum limit values for certain heavy metals both in the sewage sludge and in the soil to which it is applied, to pre-treat sludge and also to restrict its use on certain soils.

**C.8. Waste from titanium dioxide industry Directives** 78/176, 82/883, 92/112.

Member States must draw up program for reducing and eliminating pollution caused by waste from titanium dioxide industry. They must also harmonize their laws to avoid distortion of competition within the internal market.

**C.9. Motor vehicle Type-Approval Directive** 2005/64

The Directive regulates the reusability, recyclability and recoverability of motor vehicles.

**C.10. The waste oils Directive** 75/439, 1987/101, 91/692, 87/101, 2000/76.

These Directives will be repealed as from December 2010 by Directive 2008/98. Member States are required to establish systems for the registration, permitting and supervision of activities involving the processing or disposal of waste oils.

The highest priority for managing waste oils is given to regeneration, followed by combustion, then destruction or controlled storage disposal.

**C.11. Port Reception Facilities for ship waste and cargo residues Directives** Directive 2000/59 2007/71.

The purpose of the Directives is to reduce discharges of ship generated waste and cargo residues into the sea by obliging ports to establish adequate reception facilities and by requiring ships to use the International Maritime Organization (IMO) Convention on the prevention of Pollution from Ships (Marpol 73/78).

## **5. IMPLEMENTING THE LAW**

Two reports adopted by the E. Commission on November 2009 on the EU waste legislation show that implementation and enforcement is poor particularly regarding the Directives WFD 2008/98, Landfill D. 1999/31, Waste Shipment Regulation 259/93 and 1013/2006

EU waste legislation, if properly implemented and enforced, could reduce greenhouse gas emissions by up to 30% and in addition could offer significant opportunities for EU companies to innovate and access valuable secondary raw materials. Poor implementation is a missed economic, social and environmental opportunity that the EU cannot afford.

Over 20% of all environmental infringement cases are related to waste management.

Although there are also good examples, like the following: A landfill ban for waste tires has increased tire recovery to 95%, generated a strong market for fire-derived materials and in parallel reduced fire hazards in landfill sites.

In parallel European Commission has stepped up its efforts to support Member States in better implementation, using the following means:

- awareness raising and information exchange
- guidance documents for Member States on key issues
- joint enforcement actions and inspection activities in Member States in close cooperation with IMPEL (EU network for the Implementation and Enforcement of Environmental Law)

A number of Directives contribute to the better implementation of the EU environmental legislation, like the following:

### **5.1. Public access to environmental information** Directive 2003/4, repealing Directive 90/313.

The Directive was adopted to comply the EU legislation with the requirements of the Aarhus Convention<sup>8</sup>. All information must be provided by the public authorities, upon request to any natural or legal person, without them having to prove an interest as soon as possible, at the latest, within 1 month after the receipt of request. There are exceptions for commercial and industrial confidentiality and public security reasons.

### **5.2. The 6<sup>th</sup> Environmental Action Program is based on the principle of shared responsibility.** This principle means that all concerned groups should work in partnership to implement environmental policies. A **Directive adopted on the Public participation in respect of the drawing up of certain plans and programs relating to the environment, 2003/35.**

This Directive was adopted to comply the EU legislation with the requirement of the Aarhus Convention and concerning waste policy, it is applied in the Directives on batteries, on hazardous waste, on packaging, WFD, IPPC

### **5.3. Standardizing and rationalizing reports on implementation of certain Directive 91/692.**

This Directive provides for the harmonization of sector reports on the implementation of many Directives, including the waste Directives. Member States have to produce reports every 3 years based on a questionnaire format provided by the E. Commission.

### **5.4. The Environmental Liability Directive 2004/35**

This Directive implements the “polluter pays” principle, a basic principle of the EU environmental law.

## **6. PERSPECTIVES**

What is necessary for effective implementation of EU waste policy?

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<sup>8</sup> Aarhus Convention, <http://www.unece.org/env/pp/>

### **6.1. Better implementation of the Legislation**

The new EU Lisbon Treaty will contribute to this direction, as stricter procedures for the enforcement of the environmental law are imposed.

### **6.2. More efficient collaboration between Member States**

The close collaboration will succeed to effective transfer of new technologies (Best Available Technologies) and exchange of experience between Member States.

### **6.3. Increase public awareness**

Information campaigns as well as educational programs concerning the implementation of the legislation.

### **6.4. Change our values and our way of thinking**

Albert Einstein pointed out that “We can’t solve problems by using the same kind of thinking we used when we created them”.

The survival of humanity and the overcoming of the “ecological crisis” of our planet requires adaptation of our policies, our legislation, our way of thinking, producing and consuming to the changing reality, as “it is not the strongest of the species nor the most intelligent that survives. It is the one that is most adaptable to change” (Charles Darwin).