

EU focus on **waste** management



European Commission

Directorate-General
Environment, Nuclear Safety and Civil Protection

A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (<http://europa.eu.int>).

Cataloguing data can be found at the end of this publication.

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Preface

European Union policy concerning the protection of the environment and natural resources has steadily grown in importance since the 1980s. The reason for this is that the threats of environmental damage and depletion are still far from being under control. Fortunately, many people have become more aware of the lurking dangers and have demanded stronger action at national and, especially, European level in order to protect the environment.

As a result, the range of measures at our disposal in order to conduct environmental policy, ranging from legislation to financial instruments, has been strengthened enormously. In particular, the Treaty of Amsterdam has made the principle of sustainable development and a high level of environmental protection one of the top priorities (Article 2). Our policy has also become much broader and more diversified, covering all sectors of society and encompassing a wide range of instruments.

Some topics are of particular concern to many European citizens. One of these is the worrying increase of waste production. The Community, indeed, generates each year around 2 000 million tonnes of waste. Over 40 million tonnes is classified as hazardous. Over the last six years, the amount of waste generated grew by 10 % a year. It is clear that we must stop and reverse this trend if we want to avoid being submerged by rubbish. The European Union defined and is pursuing a strategy to that end.

This strategy is addressed in this brochure. It is intended to inform local and regional players, NGOs, policy-makers at all levels, social partners and consumers, as well as citizens. We also hope this information will give you ideas about how you



can make your own particular contribution towards resolving environmental problems.



Waste in Europe — the issues

Question

What weighs one kilogram, is generated every day by each European and causes huge environmental problems?

Answer

Municipal solid waste.

One kilogram per person per day maybe does not sound a lot but across the whole of Europe each year it makes a total of around 200 million tonnes of municipal waste to be appropriately treated — somehow, somewhere. And year on year we produce yet more waste. Worse still, municipal waste is not even the main contributor to the European waste mountain.

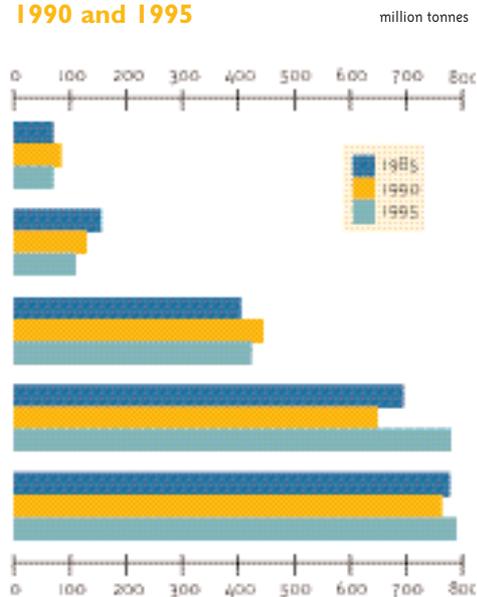
The current situation cannot continue. Waste is now not only a danger to our environment. It is increasingly a threat to human health and our way of life.

Legal landfill sites are becoming increasingly full. Heavy metals and toxins are leaking into the surrounding groundwater and soil. Explosive and toxic gases are being generated. Even more worrying is the unknown, but surely very high, number of illegal landfills whose risks cannot be quantified.

The main alternative disposal method to landfill — incineration — produces toxins and heavy metals. To prevent their release, expensive filters must be installed in incinerators. Used filters with highly concentrated contamination, together with a quarter of the waste's original weight, must still finally be landfilled.

Graph 1

Waste generation by sector in 1985, 1990 and 1995



Source: OECD.

On top of all this, substantial amounts of industrial and household waste are classified as hazardous and require special care in treatment.

Simply transporting waste to other parts of the world for disposal is in many cases illegal and is certainly not a long-term solution. One day, other countries may refuse to accept our waste — and then what?

And the problem of waste disposal is only one side of the story. The amount of waste we produce is the result of our unsustainable lifestyle. Our current pattern of production and consumption must be adapted to minimise pressure on the earth's (non-renewable) resources. In short, waste production is one of the best indicators of our progress towards sustainable development.

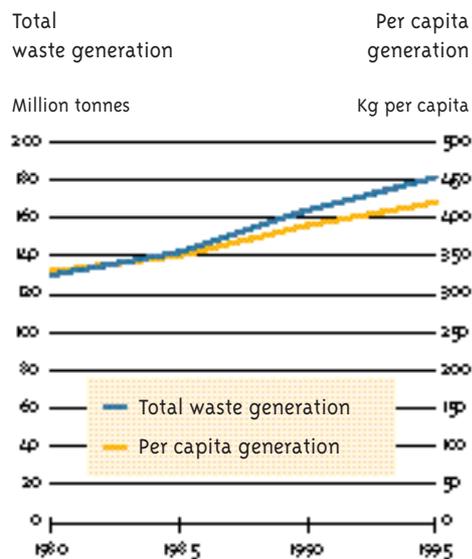


Box 1

Key facts on the European waste situation

Graph 2

Municipal waste generation in OECD Europe, 1980-85



- The total amount of waste generated each year in Europe is around 2 000 million tonnes. Over 40 million tonnes of this waste is classified as hazardous.
- Between 1990 and 1995, the total amount of waste generated in Europe, including central and eastern Europe, grew by an estimated 10 %.
- Major waste sources are agriculture, building construction, industry, mining and municipal areas. Agricultural waste is the largest in terms of quantity. Industrial waste is the most significant in terms of its environmental impact.
- Waste sources vary between countries according to their economic situation. Countries in western Europe produce a greater share of industrial and municipal waste than those in central and eastern Europe, where mining is the main source of waste.
- Municipal waste in OECD European countries increased by about 11 % between 1990 and 1995 to a total of around 200 million tonnes. Forecasts point to continued increases in the near future.
- Paper and organic waste make up a high proportion of European municipal waste streams, with an increasing share of plastic.
- The majority of municipal waste is disposed of in landfills, still the cheapest available option despite the introduction of landfill taxes in some European countries
- Awareness of the need to prevent and minimise waste is increasing, as is recycling of waste in countries with advanced waste management systems. In general, too little use is made of composting.
- Statistics on waste production, composition, transport and treatment are not collected in the same way, nor in the same amount of detail, in all countries of Europe. This makes it difficult to obtain an overall picture of the European waste situation and identify trends. Lack of data on hazardous waste is of particular concern.

Source: *Europe's environment – the second assessment*, EEA.

The management options

Good waste management begins with preventing waste being generated in the first place — after all, what is not produced does not have to be disposed of. Hence, waste prevention and minimisation should have top priority in any waste management plan.

Where waste material is produced, planners and managers must always choose the optimal treatment option with the lowest possible risks to human health and the environment. Each treatment option brings with it different impacts to different parts of the environment.

Complete or partial recycling means that the amount of waste to be disposed of can be reduced and use of raw materials can be avoided. For example, organic material can be composted to provide a valuable end-product and reduce the amount of waste for disposal. In some cases, recovering energy from waste material through using it as a fuel might also be a solution.

When waste must finally be disposed of the choice falls between landfill and incineration. Neither is a perfect solution, both potentially being harmful to the environment and our health. The best option is simply to reduce the total amount of waste we produce.



Box I

Key facts on the European waste situation

	Landfill	Composting	Incineration	Recycling	Transportation
Air	Emission of CH ₄ , CO ₂ ; odours	Emission of CH ₄ , CO ₂ ; odours	Emission of SO ₂ , NO _x , HCl, HF, NMVOC, CO, CO ₂ , N ₂ O, dioxins, dibenzofurans, heavy metals (Zn, Pb, Cu, As)	Emissions of dust	Emissions of dust NO _x , SO ₂ , release of hazardous substances from accidental spills
Water	Leaching of salts, heavy metals, biodegradable and persistent organics to groundwater		Deposition of hazardous substances on surface water	Waste water discharges	Risk of surface water and groundwater contamination from accidental spills
Soil	Accumulation of hazardous substances in soil		Landfilling of slags, fly ash and scrap	Landfilling of final residues	Risk of soil contamination from accidental spills
Landscape	Soil occupancy; restriction on other land uses	Soil occupancy; restriction on other land uses	Visual intrusion; restriction on other land uses	Visual intrusion	Traffic
Ecosystems	Contamination and accumulation of toxic substances in the food chain	Contamination and accumulation of toxic substances in the food chain	Contamination and accumulation of toxic substances in the food chain		Risk of contamination from accidental spills
Urban areas	Exposure to hazardous substances		Exposure to hazardous substances	Noise	Risk of exposure to hazardous substances from accidental spills; traffic

The European Union and waste management

Waste management is a complex subject, made up of many component parts. It can be easy to lose sight of the 'big picture'. European waste management is particularly challenging: environmental protection must be achieved without distorting the European internal market. There is no blueprint which can be applied in every situation but the EU has firm principles upon which its approach to waste management is based.

- Prevention principle — waste production must be minimised and avoided where possible.
- Producer responsibility and polluter pays principle — those who produce the waste or contaminate the environment should pay the full costs of their actions.
- Precautionary principle — we should anticipate potential problems.
- Proximity principle — waste should be disposed of as closely as possible to where it is produced.

These principles are made more concrete in the 1996 EU general strategy on waste which sets out a preferred hierarchy of waste management operations:

1. prevention of waste,
2. recycling and reuse,
3. optimum final disposal and improved monitoring.

The strategy also stresses the need for:

- reduced waste movements and improved waste transport regulation;

- new and better waste management tools such as:
 - regulatory and economic instruments;
 - reliable and comparable statistics on waste;
 - waste management plans;
 - proper enforcement of legislation.

As a further part of its overall waste management strategy the European Commission has defined several specific waste streams to receive priority attention, the aim being to reduce the overall environmental impact of each waste stream (see Box 2). Proposals for new legislation on waste disposal operations are also being considered (see Box 3).

Box 2

Specific waste streams

Packaging waste

Packaging consumes raw materials during its manufacture, comprises an increasing proportion of non-degradable plastic and produces toxic emissions during incineration. Unfortunately more of the goods that we buy now come in more packaging. Packaging is now estimated to form up to half the volume of municipal waste in western Europe. Only 10-15 % of packaging waste is recovered.

The European packaging directive, adopted in 1994:

- encourages the establishment of

reuse systems so that packaging can be reused;

- sets clear targets for recovery of packaging to be achieved by the year 2001:

recovery of 50 to 65 % by weight of packaging waste;

recycling of 25 to 45 % of packaging waste;

recycling of a minimum of 15 % of each packaging material.

Significant efforts are needed to reach these targets, including identifying markets for secondary materials.





End-of-life vehicles

The European Commission is in discussion with various partners on how best to deal with our cars at the end of their lives. A proposal for a directive has been prepared which:

- aims to reduce the environmental impact of cars at the end of their useful lives;
- respects the working of the European internal market;
- puts forward measures to prevent and minimise waste from vehicles;
- requires collection and suitable treatment of end-of-life vehicles (including reuse/recovery).

Batteries

Batteries contain heavy metals such as cadmium, mercury and lead, which are harmful to human health and the environment if they are not collected and disposed of correctly. European legislation is currently being revised to:

- upgrade and broaden existing legislation to cover all types of battery;
- limit the heavy metal content of batteries;

- improve the proportion of batteries collected and recycled.

Electrical and electronic waste

The waste stream of discarded electrical and electronic equipment is growing very quickly, doubling every 12 years. Such equipment contains significant amounts of all kinds of hazardous waste, including heavy metals and various halogenated substances. In addition, many raw materials are needed for the production of new equipment. Proposed legislation on electrical and electronic waste seeks to improve waste management, reduce resource use and create employment (an estimated 12 000 to 15 000 jobs could be created in this field).

Main elements of the proposal include:

- design measures, including a reduction of heavy metals used in electrical and electronic equipment;
- establishment of collection, treatment and, in particular, recovery, systems;
- involvement of the producers in these measures to encourage design for recycling.

Hazardous household waste

Hazardous household waste includes batteries, oils, paints and out-of-date medicines. Action is needed in this area because:

- final disposal takes place in municipal waste sites without the same standards required for industrial hazardous waste;

- such wastes also pose problems for recycling because they contaminate material which could otherwise be recovered.

Other specific waste streams being studied include organic waste and PVC. The European Commission is also currently reviewing directives on waste oils and sewage sludge.

Box 3**Waste treatment options****Landfill**

Despite the environmental drawbacks of landfill, most European municipal and hazardous waste is disposed of into or onto land. And as landfill is likely to remain a disposal option for part of our waste, it is important that it is carried out to a high standard to protect human health and the environment. The European Commission has proposed a new landfill directive which will probably be adopted in 1999. The proposed directive:

- aims to reduce both the amount and toxicity of landfilled waste;
- defines standards for the design and operation of existing and new landfills;

- encourages pre-treatment of waste before it is landfilled;

- aims to prevent potentially harmful waste mixing by suggesting that certain types of waste can only be disposed of in certain sites.

Incineration

In October 1998, the European Commission adopted a proposal on incineration of waste which updates and extends the scope of previous legislation on incineration of municipal waste. The new proposal:

- tightens up emission standards for both new and existing installations, and importantly also applies to so-called

'co-incinerators' like cement kilns and power plants;

- for the first time sets strict emission limit values for furans and dioxins (0.1 ng/m³) and includes limit values for emissions of waste water.

The proposed directive will probably be adopted by the Council and Parliament at the end of 1999 or beginning of 2000.

Waste transport

Too much waste is still moved from place to place. In some countries, standards required for waste treatment or disposal are lower and therefore waste treatment or disposal is cheaper. But transferring waste from a country where environmental standards are high (and treatment expensive) to one where standards and costs are lower is not a sustainable option. In any event, transport of waste should be minimised to reduce the risk of accidents and save resources. EU policy lays down that, within Europe, waste should be disposed of as close as possible to where it is produced (the proximity principle). And Community legislation prohibits the shipment of:

- all kinds of waste destined for disposal in non-OECD countries;
- hazardous waste for recovery in non-OECD countries.

The need for more — shared — action



To date, European action in the waste field has mainly, but not only, taken the form of legislation. Other measures supported and funded by the EC to improve the European waste situation, include:

- technical research
- recycling industries
- training
- awareness-raising actions
- exchange of good practice.

Whilst these actions have prevented the situation being even worse than it is today, waste generation is still too high and rising rapidly. The situation is becoming critical. For years there has been too little action on the European waste problem and inadequate planning for optimal solutions. As far back as 1975 Community legislation required Member States to develop comprehensive waste management plans. Nearly 25 years on, little has happened. Competent authorities must realise their responsibility to act and encourage others to take action before it is too late. All societal partners must now actively seek solutions for our own benefit and that of future generations.

At the end of the day we share responsibility for our environment. Each one of us makes decisions and takes actions which affect the world around us. It is up to all of us to tackle the growing waste problem, a problem which has to be solved at local level. And the need for local solutions, linked to larger management plans and in line with Community waste strategy, will increase in the future.

Figures of millions of tonnes of waste and talk of regulatory instruments can make us feel that we cannot make a

difference. This is not true. Actions we can all take every day to improve the situation include:

As a consumer

1. Minimise the amount of waste you generate. Buy 'green' products and those with little packaging.
2. Reuse packaging where possible.
3. Collect your waste separately for recycling.
4. Look into the possibilities of composting organic matter.
5. Take special care when disposing of hazardous household waste.
6. Ask your municipality what they are doing to improve the local waste situation. For example, do they have a waste management plan as required since 1975?

As a business

1. Develop products and production techniques which minimise waste generation. You know your product better than anyone else. With the help of life-cycle analyses and eco-balances you can design your product to have minimum environmental impact during its lifetime. Such an approach, which minimises waste of energy and materials, can also save your business money.
2. Limit the amount of packaging in which your products are delivered and make provision with local authorities to recover this packaging for reuse.



3. Encourage your suppliers to reduce the amount of packaging in which they deliver their products.

As a local authority

1. Adopt a waste management plan and allocate the necessary resources to ensure its implementation.
2. Minimise waste generation through greening your procurement procedures.
3. Encourage business and citizens to minimise waste generation.
4. Facilitate waste recycling and recovery through providing separate bins for collection of different wastes.
5. Make provision for separate collection of hazardous household waste.
6. Create partnerships with industry and business to find ways of reducing waste generation.



Further information and order form

Directorate-General XI is the arm of the European Commission responsible for matters of environment, civil protection and nuclear safety. DG XI produces regular reports and other publications covering the full spectrum of environmental themes, including waste.

More information about environment policies can be found at the DG XI website on the Europa server:

http://europa.eu.int/comm/dg11/index_en.htm

The site includes an on-line catalogue of publications, many of which are free of charge.

You can also order the list of publications available from DG XI by completing and returning the attached form to:

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TRMF o/50
Rue de la Loi 200
B-1049 Brussels
Tel. (32-2) 299 03 26
Fax (32-2) 299 61 98
E-mail: dgxiweb@dg11.cec.be

Another useful source of information is:

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E-mail: eea@eea.eu.int
Website <http://www.eea.eu.int>

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