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## Waste Incineration

The European Union has introduced measures to prevent or reduce, as far as possible, air, water and soil pollution caused by the incineration or co-incineration of waste, as well as the resulting risk to human health. These measures include a prior authorisation requirement for incineration and co-incineration plants, and emission limits for certain pollutants released to air or to water.

### ACT

Directive [2000/76/EC](#) of the European Parliament and of the Council of 4 December 2000 on the incineration of waste.

### SUMMARY

Incineration of both hazardous and harmless wastes may cause emissions of substances which pollute the air, water and soil and have harmful effects on human health.

When the proposal for this Directive was introduced, the Community's waste incineration system was covered by Directives [89/369/EEC](#) and [89/429/EEC](#) (new and existing municipal waste-incineration plants) and [94/67/EC](#) (incineration of hazardous waste).

This Directive is intended to fill the gaps existing in that legislation. Apart from the incineration of non-hazardous municipal waste, its scope extends to the incineration of non-hazardous non-municipal waste (such as sewage sludge, tyres and hospital waste) and hazardous wastes not covered by Directive [94/67/EC](#) (such as waste oils and solvents). At the same time, it is intended to incorporate the technical progress made on monitoring incineration-process emissions into the existing legislation, and to ensure that the Community meets its international commitments to reduce pollution, particularly those concerning the introduction of limits on emissions of dioxins, mercury and dust arising from waste incineration (protocols signed in 1998 under the aegis of the United Nations Economic Commission Convention on long-distance cross-border atmospheric pollution). The Directive is based on an integrated approach: limits for discharges to water are added to the updated limits for emissions to air.

Unlike Directives [89/369/EEC](#) and [89/429/EEC](#) referred to above, this Directive applies not only to facilities intended for waste incineration ("dedicated incineration plants") but also to "co-incineration" plants (facilities whose main purpose is to produce energy or material products and which use waste as a regular or additional fuel, this waste being thermally treated for the purpose of disposal). The Directive does not cover experimental plants for improving the incineration process and which treat less than 50 tonnes of waste per year. Nor does it cover plants treating only:

- vegetable waste from agriculture and forestry, the food processing industry or the production of paper;
- wood waste;
- cork waste;
- radioactive waste;
- animal carcasses;
- waste resulting from the exploitation of oil and gas and incinerated on board offshore installations.

All incineration or co-incineration plants must be authorised. Permits will be issued by the competent authority and will list the categories and quantities of hazardous and non-hazardous waste which may be treated, the plant's incineration or co-incineration capacity and the sampling and measurement procedures which are to be used.

Before accepting hazardous waste, operators of incineration or co-incineration plants must have available the prescribed administrative information on the generating processes, information on the physical and chemical composition of hazardous waste, and information on the hazardous characteristics of the waste.

In order to guarantee complete waste combustion, the Directive requires all plants to keep the incineration or co-incineration gases at a temperature of at least 850°C for at least two seconds. If hazardous waste with a content of more than 1% of halogenated organic substances, expressed as chlorine, is incinerated, the temperature has to be raised to 1 100 °C for at least two seconds.

The heat generated by the incineration process has to be put to good use as far as possible.

The limit values for incineration plant emissions to air are set out in Annex V to the Directive. They concern heavy metals, dioxins and furans, carbon monoxide (CO), dust, total organic carbon (TOC), hydrogen chloride (HCl), hydrogen fluoride (HF), sulphur dioxide (SO<sub>2</sub>), nitrogen monoxide (No) and nitrogen dioxide (NO<sub>2</sub>).

The limit values for co-incineration plant emissions to air are set out in Annex II. In addition, special provisions are laid down relating to cement kilns, other industrial sectors, and combustion plants which co-incinerate waste.

All discharges of effluents caused by exhaust-gas clean-up must be authorised. This will ensure that the emission limit values set out in Annex IV to the Directive are not exceeded. Rain or firefighting water will be collected and analysed before being discharged.

Incineration residues must be reduced to a minimum and, as far as possible, recycled. When dry residues are transported, precautions must be taken to prevent their dispersal in the environment. Tests must be carried out to establish the physical and chemical characteristics, and polluting potential, of residues.

The Directive requires the installation of measurement systems to monitor the parameters and relevant emission limits. Emissions to air and to water must be measured periodically in accordance with Annex III and Article 11 of the Directive.

Applications for new permits must be made accessible to the public so that the latter may comment before the competent authority reaches a decision.

For plants with a nominal capacity of two tonnes or more per hour, the operator must provide the competent authority with an annual report on the functioning and monitoring of the plant, to be made available to the public. A list of plants with a nominal capacity of less than two tonnes per hour must be drawn up by the competent authority and made available to the public.

By 31 December 2008, the Commission must report to Parliament and the Council on the application of the Directive, progress achieved in emission control techniques and experience with waste management. Other reports on the implementation of the Directive will also be produced.

The following were to be repealed as of 28 December 2005:

- Article 8(1) and the Annex to Directive [75/439/EEC](#);
- Directive [89/369/EEC](#);
- Directive [89/429/EEC](#);
- Directive [94/67/EC](#).

The Member States must determine the penalties applicable to breaches of the Directive.

The Directive has applied to existing plants since 28 December 2005 and to new plants since 28 December 2002.

## REFERENCES

Act	Entry into force - Date of expiry	Deadline for transposition in the Member States	Official Journal
<a href="#">Directive 2000/76/EC</a>	28.12.2000	28.12.2002	OJ L 332 of 28.12.2000

## RELATED ACTS

**Commission Decision [2006/329/EC](#) of 20 February 2006 laying down a questionnaire to be used for reporting on the implementation of Directive [2006/76/EC](#) on the incineration of waste [Official Journal L 121 of 06.05.2006].**

**Council Directive [96/61/EC](#) of 24 September 1996 concerning integrated pollution prevention and control [Official Journal L 257 of 10.10.1996].** This Directive introduces arrangements for integrated pollution prevention and control, based on prior authorisation of certain activities with high pollution potential. Installations for the incineration of municipal waste with a capacity exceeding 3 tonnes per hour and installations for the disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day fall within the scope of this Directive.