Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste (Text with EEA relevance) (repealed)

DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 5 April 2006

on waste

(Text with EEA relevance) (repealed)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee⁽¹⁾,

After consulting the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty⁽²⁾,

Whereas:

- (1) Council Directive 75/442/EEC of 15 July 1975 on waste⁽³⁾ has been significantly amended on several occasions⁽⁴⁾. In order to clarify matters, a codification of the provisions in question should be drawn up.
- (2) The essential objective of all provisions relating to waste management should be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste.
- (3) Common terminology and a definition of waste are needed in order to improve the efficiency of waste management in the Community.
- (4) Effective and consistent rules on waste disposal and recovery should be applied, subject to certain exceptions, to movable property which the holder discards or intends or is required to discard.
- (5) The recovery of waste and the use of recovered materials as raw materials should be encouraged in order to conserve natural resources. It may be necessary to adopt specific rules for re#usable waste.
- (6) In order to achieve a high level of environmental protection, Member States should, in addition to taking responsible action to ensure the disposal and recovery of waste, take measures to restrict the production of waste particularly by promoting clean technologies and products which can be recycled and re#used, taking into consideration existing or potential market opportunities for recovered waste.

- (7) Moreover, discrepancies between Member States' legislation with regard to waste disposal and recovery may affect the quality of the environment and the smooth operation of the internal market.
- (8) It is important for the Community as a whole to become self#sufficient in waste disposal and desirable for Member States individually to aim at such self#sufficiency.
- (9) In order to achieve those objectives, waste management plans should be drawn up in the Member States.
- (10) Movements of waste should be reduced and Member States may take the necessary measures to that end in their management plans.
- (11) To ensure a high level of protection and effective control, it is necessary to provide for authorisation and inspection of undertakings which carry out waste disposal and recovery.
- (12) Subject to certain conditions, and provided that they comply with environmental protection requirements, some establishments which process their waste themselves or carry out waste recovery may be exempted from permit requirements. Such establishments should be subject to registration.
- (13) In order that waste can be monitored from its production to its final disposal, other undertakings involved with waste, such as waste collectors, carriers and brokers should also be subject to authorisation or registration and appropriate inspection.
- (14) That proportion of the costs not covered by the proceeds of treating the waste must be defrayed in accordance with the 'polluter pays' principle.
- (15) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission⁽⁵⁾.
- (16) This Directive should be without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law of the Directives listed in Part B of Annex III,

HAVE ADOPTED THIS DIRECTIVE:

Article 1 U.K.

1 For the purposes of this Directive:

- a 'waste' shall mean any substance or object in the categories set out in Annex I which the holder discards or intends or is required to discard;
- b 'producer' shall mean anyone whose activities produce waste ('original producer') and/ or anyone who carries out pre#processing, mixing or other operations resulting in a change in the nature or composition of this waste;
- c 'holder' shall mean the producer of the waste or the natural or legal person who is in possession of it;
- d 'management' shall mean the collection, transport, recovery and disposal of waste, including the supervision of such operations and after#care of disposal sites;
- e 'disposal' shall mean any of the operations provided for in Annex II A;

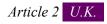
- f 'recovery' shall mean any of the operations provided for in Annex II B;
- g 'collection' shall mean the gathering, sorting and/or mixing of waste for the purpose of transport.

[^{F1}2 For the purposes of paragraph 1, point (a), Commission Decision 2000/532/EC⁽⁶⁾ featuring the list of waste belonging to the categories listed in Annex I to this Directive shall apply. This list shall be periodically reviewed and, if necessary, revised. Those measures, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(4).]

Textual Amendments

1

F1 Substituted by Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).



- The following shall be excluded from the scope of this Directive:
- [^{F2}a gaseous effluents emitted into the atmosphere and carbon dioxide captured and transported for the purposes of geological storage and geologically stored in accordance with Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide⁽⁷⁾ or excluded from the scope of that Directive pursuant to its Article 2(2);]
 - b where they are already covered by other legislation:
 - (i) radioactive waste;
 - (ii) waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries;
 - (iii) animal carcases and the following agricultural waste: faecal matter and other natural, non#dangerous substances used in farming;
 - (iv) waste waters, with the exception of waste in liquid form;
 - (v) decommissioned explosives.

2 Specific rules for particular instances, or supplementing those of this Directive, on the management of particular categories of waste, may be laid down by means of individual Directives.

Textual Amendments

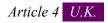
F2 Substituted by Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (Text with EEA relevance).



- 1 Member States shall take appropriate measures to encourage:
 - a first, the prevention or reduction of waste production and its harmfulness, in particular by:

- (i) the development of clean technologies more sparing in their use of natural resources;
- the technical development and marketing of products designed so as to make no contribution or to make the smallest possible contribution, by the nature of their manufacture, use or disposal, to increasing the amount or harmfulness of waste and pollution hazards;
- (iii) the development of appropriate techniques for the final disposal of dangerous substances contained in waste destined for recovery;
- b second:
 - (i) the recovery of waste by means of recycling, re#use or reclamation or any other process with a view to extracting secondary raw materials; or
 - (ii) the use of waste as a source of energy.

2 Except where Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations⁽⁸⁾ applies, Member States shall inform the Commission of any measures they intend to take to achieve the aims set out in paragraph 1. The Commission shall inform the other Member States and the Committee referred to in Article 18(1) of such measures.



1 Member States shall take the necessary measures to ensure that waste is recovered or disposed of without endangering human health and without using processes or methods which could harm the environment, and in particular:

- a without risk to water, air or soil, or to plants or animals;
- b without causing a nuisance through noise or odours;
- c without adversely affecting the countryside or places of special interest.

2 Member States shall take the necessary measures to prohibit the abandonment, dumping or uncontrolled disposal of waste.

Article 5 U.K.

1 Member States shall take appropriate measures, in cooperation with other Member States where this is necessary or advisable, to establish an integrated and adequate network of disposal installations, taking account of the best available technology not involving excessive costs. The network must enable the Community as a whole to become self#sufficient in waste disposal and the Member States to move towards that aim individually, taking into account geographical circumstances or the need for specialised installations for certain types of waste.

2 The network referred to in paragraph 1 must enable waste to be disposed of in one of the nearest appropriate installations, by means of the most appropriate methods and technologies in order to ensure a high level of protection for the environment and public health.



Member States shall establish or designate the competent authority or authorities to be responsible for implementing this Directive.



1 In order to attain the objectives referred to in Articles 3, 4 and 5, the competent authority or authorities referred to in Article 6 shall be required to draw up as soon as possible one or more waste management plans. Such plans shall relate in particular to:

- a the type, quantity and origin of waste to be recovered or disposed of;
- b general technical requirements;

2

- c any special arrangements for particular wastes;
- d suitable disposal sites or installations.

The plans referred to in paragraph 1 may, for example, cover:

- a the natural or legal persons empowered to carry out waste management;
- b the estimated costs of the recovery and disposal operations;
- c appropriate measures to encourage rationalisation of the collection, sorting and treatment of waste.

3 Member States shall cooperate as appropriate with the other Member States and the Commission to draw up such plans. They shall notify Commission of them.

4 Member States may take the measures necessary to prevent movements of waste which do not comply with their waste management plans. They shall inform the Commission and the Member States of any such measures.



Member States shall take the necessary measures to ensure that any holder of waste:

- (a) has it handled by a private or public waste collector or by an undertaking which carries out the operations listed in Annex II A or II B; or
- (b) recovers or disposes of it himself in accordance with the provisions of this Directive.

Article 9 U.K.

1 For the purposes of implementing Articles 4, 5 and 7, any establishment or undertaking which carries out the operations specified in Annex II A shall obtain a permit from the competent authority referred to in Article 6.

Such permit shall cover:

- a the types and quantities of waste;
- b the technical requirements;
- c the safety precautions to be taken;
- d the disposal site;
- e the treatment method.

2 Permits may be granted for a specified period, they may be renewable, they may be subject to conditions and obligations, or, notably, if the intended method of disposal is unacceptable from the point of view of environmental protection, they may be refused.

Article 10 U.K.

For the purposes of applying Article 4, any establishment or undertaking which carries out the operations referred to in Annex II B shall obtain a permit.



1 Without prejudice to Council Directive 91/689/EEC of 12 December 1991 on hazardous waste⁽⁹⁾, the following may be exempted from the permit requirement laid down in Article 9 or Article 10:

- a establishments or undertakings carrying out their own waste disposal at the place of production; and
- b establishments or undertakings that carry out waste recovery.

2 The exemption referred to in paragraph 1 may apply only:

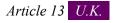
- a if the competent authorities have adopted general rules for each type of activity, laying down the types and quantities of waste and the conditions under which the activity in question may be exempted from the permit requirement; and
- b if the types or quantities of waste and methods of disposal or recovery are such that the conditions laid down in Article 4 are complied with.

3 The establishments or undertakings referred to in paragraph 1 shall be registered with the competent authorities.

4 Member States shall inform the Commission of the general rules adopted pursuant to paragraph 2, point (a).

Article 12 U.K.

Establishments or undertakings which collect or transport waste on a professional basis or which arrange for the disposal or recovery of waste on behalf of others (dealers or brokers) shall, where they are not subject to authorisation, be registered with the competent authorities.



Establishments or undertakings which carry out the operations referred to in Articles 9 to 12 shall be subject to appropriate periodic inspections by the competent authorities.

Article 14 U.K.

1 All establishments or undertakings referred to in Articles 9 and 10 shall:

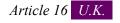
- a keep a record of the quantity, nature, origin and, where relevant, the destination, frequency of collection, mode of transport and treatment method in respect of the waste referred to in Annex I and the operations referred to in Annex II A or II B;
- b make this information available, on request, to the competent authorities referred to in Article 6.

2 Member States may also require producers to comply with the provisions of paragraph 1.

Article 15 U.K.

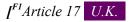
In accordance with the 'polluter pays' principle, the cost of disposing of waste must be borne by:

- (a) the holder who has waste handled by a waste collector or by an undertaking as referred to in Article 9; and/or
- (b) the previous holders or the producer of the product from which the waste came.



At intervals of three years Member States shall send information to the Commission on the implementation of this Directive, in the form of a sectoral report which shall also cover other pertinent Community Directives. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure referred to in Article 18(2). The questionnaire or outline shall be sent to the Member States six months before the start of the period covered by the report. The report shall be made to the Commission within nine months of the end of the three# year period covered by it.

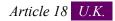
The Commission shall publish a Community report on the implementation of the Directive within nine months of receiving the reports from the Member States.



The measures necessary for adapting the Annexes to scientific and technical progress, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(4).]

Textual Amendments

F1 Substituted by Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).



1 The Commission shall be assisted by a committee.

2 Where reference is made to this paragraph, Articles 4 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 4(3) of Decision 1999/468/EC shall be set at one month.

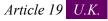
3 Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

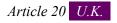
 $[^{F1}4$ Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.]

Textual Amendments

F1 Substituted by Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).

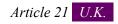


Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.



Directive 75/442/EEC is hereby repealed, without prejudice to Member States' obligations relating to the time#limits for transposition into national law set out in Annex III, Part B.

References made to the repealed Directive shall be construed as being made to this Directive and should be read in accordance with the correlation table in Annex IV.



This Directive shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

Article 22 U.K.

This Directive is addressed to the Member States.

ANNEX I U.K.

CATEGORIES OF WASTE

Q1	Production or consumption residues not otherwise specified below
Q2	Off-specification products
Q3	Products whose date for appropriate use has expired
Q4	Materials spilled, lost or having undergone other mishap, including any materials, equipment, etc., contaminated as a result of the mishap
Q5	Materials contaminated or soiled as a result of planned actions (e.g. residues from cleaning operations, packing materials, containers, etc.)
Q6	Unusable parts (e.g. reject batteries, exhausted catalysts, etc.)
Q7	Substances which no longer perform satisfactorily (e.g. contaminated acids, contaminated solvents, exhausted tempering salts, etc.)
Q8	Residues of industrial processes (e.g. slags, still bottoms, etc.)
Q9	Residues from pollution abatement processes (e.g. scrubber sludges, baghouse dusts, spent filters, etc.)
Q10	Machining/finishing residues (e.g. lathe turnings, mill scales, etc.)
Q11	Residues from raw materials extraction and processing (e.g. mining residues, oil field slops, etc.)
Q12	Adulterated materials (e.g. oils contaminated with PCBs, etc.)
Q13	Any materials, substances or products the use of which has been banned by law
Q14	Products for which the holder has no further use (e.g. agricultural, household, office, commercial and shop discards, etc.)
Q15	Contaminated materials, substances or products resulting from remedial action with respect to land
Q16	Any materials, substances or products which are not contained in the abovementioned categories.

ANNEX II A U.K.

DISPOSAL OPERATIONS

NB: This Annex is intended to list disposal operations such as they occur in practice. In accordance with Article 4, waste must be disposed of without endangering human health and without the use of processes or methods likely to harm the environment.

D 1 Deposit into or on to land (e.g. landfill, etc.) D 2 Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.) Deep injection (e.g. injection of pumpable discards into wells, salt D 3 domes or naturally occurring repositories, etc.) D4 Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.) D 5 Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc. D 6 Release into a water body except seas/oceans D 7 Release into seas/oceans including sea#bed insertion

D 8	Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 7 and D 9 to D 12
D 9	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 8 and D 10 to D 12 (e.g. evaporation, drying, calcination, etc.)
D 10	Incineration on land
D 11	Incineration at sea
D 12	Permanent storage (e.g. emplacement of containers in a mine, etc.)
D 13	Blending or mixing prior to submission to any of the operations numbered D 1 to D 12
D 14	Repackaging prior to submission to any of the operations numbered D 1 to D 13
D 15	Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where it is produced)

ANNEX II B U.K.

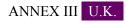
RECOVERY OPERATIONS

NB: This Annex is intended to list recovery operations as they occur in practice. In accordance with Article 4, waste must be recovered without endangering human health and without the use of processes or methods likely to harm the environment.

R 1	Use principally as a fuel or other means to generate energy
R 2	Solvent reclamation/regeneration
R 3	Recycling/reclamation of organic substances which are not used as

IC 5	receyching reclaination of organic substances which are not used as
	solvents (including composting and other biological transformation
	processes)
R 4	Recycling/reclamation of metals and metal compounds

- R 5 Recycling/reclamation of inclus and inclus compound R 5 Recycling/reclamation of other inorganic materials
- R 6 Regeneration of acids or bases
- R 7 Recovery of components used for pollution abatement
- R 8 Recovery of components from catalysts
- R 9 Oil re-refining or other reuses of oil
- R 10 Land treatment resulting in benefit to agriculture or ecological improvement
- R 11 Use of wastes obtained from any of the operations numbered R 1 to R 10
- R 12 Exchange of wastes for submission to any of the operations numbered R 1 to R 11
- R 13 Storage of wastes pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where it is produced)



PART A U.K.

REPEALED DIRECTIVE WITH ITS SUCCESSIVE AMENDMENTS

(referred to in Article 20)

Council Directive 75/442/EEC (OJ L 194, 25.7.1975, p. 39)	
Council Directive 91/156/EEC (OJ L 78, 26.3.1991, p. 32)	
Council Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48)	only as regards the reference to Directive 75/442/EEC in Annex VI
Commission Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32)	
Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1)	Annex III, point 1 only

PART B U.K.

LIST OF TIME-LIMITS FOR TRANSPOSITION INTO NATIONAL LAW

(referred to in Article 20)

Directive	Time-limit for transposition
75/442/EEC	17 July 1977
91/156/EEC	1 April 1993
91/692/EEC	1 January 1995

ANNEX IV U.K.

CORRELATION TABLE

Directive 75/442/EEC	This Directive
Article 1, introductory words	Article 1(1) introductory words
Article 1(a) first subparagraph	Article 1(1)(a)
Article 1(a) second subparagraph	Article 1(2)
Article 1(b) — (g)	Article 1(1)(b) — (g)
Article 2	Article 2

Article 3(1) introductory words	Article 3(1) introductory words
Article 3(1)(a) introductory words	Article 3(1)(a) introductory words
Article 3(1)(a) first indent	Article 3(1)(a)(i)
Article 3(1)(a) second indent	Article 3(1)(a)(ii)
Article 3(1)(a) third indent	Article 3(1)(a)(iii)
Article 3(1)(b), introductory words	Article 3(1)(b) introductory words
Article 3(1)(b) first indent	Article 3(1)(b)(i)
Article 3(1)(b) second indent	Article 3(1)(b)(ii)
Article 3(2)	Article 3(2)
Article 4, first paragraph, introductory words	Article 4(1), introductory words
Article 4, first paragraph, first indent	Article 4(1)(a)
Article 4, first paragraph, second indent	Article 4(1)(b)
Article 4, first paragraph, third indent	Article 4(1)(c)
Article 4, second paragraph	Article 4(2)
Article 5	Article 5
Article 6	Article 6
Article 7(1), first subparagraph, introductory words	Article 7(1), introductory words
Article 7(1), first subparagraph, first indent	Article 7(1)(a)
Article 7(1), first subparagraph, second indent	Article 7(1)(b)
Article 7(1), first subparagraph, third indent	Article 7(1)(c)
Article 7(1), first subparagraph, fourth indent	Article 7(1)(d)
Article 7(1), second subparagraph, introductory words	Article 7(2), introductory words
Article 7(1), second subparagraph, first indent	Article 7(2)(a)
Article 7(1), second subparagraph, second indent	Article 7(2)(b)
Article 7(1), second subparagraph, third indent	Article 7(2)(c)
Article 7(2)	Article 7(3)
Article 7(3)	Article 7(4)
Article 8, introductory words	Article 8, introductory words
Article 8, first indent	Article 8(a)
Article 8, second indent	Article 8(b)

Article 9(1), first subparagraph	Article 9(1), first subparagraph
Article 9(1), second subparagraph, introductory words	Article 9(1), second subparagraph, introductory words
Article 9(1), second subparagraph, first indent	Article 9(1), second subparagraph, (a)
Article 9(1), second subparagraph, second indent	Article 9(1), second subparagraph, (b)
Article 9(1), second subparagraph, third indent	Article 9(1), second subparagraph, (c)
Article 9(1), second subparagraph, fourth indent	Article 9(1), second subparagraph, (d)
Article 9(1), second subparagraph, fifth indent	Article 9(1), second subparagraph, (e)
Article 9(2)	Article 9(2)
Article 10	Article 10
Article 11(1), first subparagraph	Article 11(1)
Article 11(1), second subparagraph, introductory words	Article 11(2), introductory words
Article 11(1), second subparagraph, first indent	Article 11(2)(a)
Article 11(1), second subparagraph, second indent	Article 11(2)(b)
Article 11(2)	Article 11(3)
Article 11(3)	Article 11(4)
Article 12	Article 12
Article 13	Article 13
Article 14, first paragraph, introductory words	Article 14(1), introductory words
Article 14, first paragraph, first indent	Article 14(1)(a)
Article 14, first paragraph, second indent	Article 14(1)(b)
Article 14, second subparagraph	Article 14(2)
Article 15, introductory words	Article 15, introductory words
Article 15, first indent	Article 15(a)
Article 15, second indent	Article 15(b)
Article 16, first paragraph	Article 16, first paragraph and Article 18(2)
Article 16, second paragraph	
Article 16, third paragraph	Article 16, second paragraph
Article 17	Article 17

Article 18(1)
Article 18(3)
Article 18(4)
Article 19
Article 20
Article 21
Article 22
Annex I
Annex II A
Annex II B
Annex III
Annex IV

- (**1**) OJ C 112, 30.4.2004, p. 46.
- (2) Opinion of the European Parliament of 9 March 2004 (OJ C 102 E, 28.4.2004, p. 106) and Council Decision of 30 January 2006.
- (3) OJ L 194, 25.7.1975, p. 39. Directive as last amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1).
- (4) See Part A of Annex III.
- (5) OJ L 184, 17.7.1999, p. 23.
- (6) [^{F1}OJ L 226, 6.9.2000, p. 3.;]
- (7) [^{F2}OJ L 140, 5.6.2009, p. 114.]
- (8) OJ L 204, 21.7.1998, p. 37. Directive as last amended by the 2003 Act of Accession.
- (9) OJ L 377, 31.12.1991, p. 20. Directive as amended by Directive 94/31/EC (OJ L 168, 2.7.1994, p. 28).

Textual Amendments

- **F1** Substituted by Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).
- F2 Substituted by Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (Text with EEA relevance).