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**CORRIGENDUM**

Annule et remplace le point 3.3 (Autosuffisance en matière d'élimination des déchets - Article 5- concerne la Finlande) ainsi que le tableau 3.1 du document COM(2003)250 du 19.5.2003  
Concerne toutes les versions.

**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN  
PARLIAMENT**

**ON THE IMPLEMENTATION OF COMMUNITY WASTE LEGISLATION**

**Directive 75/442/EEC on waste,  
Directive 91/689/EEC on hazardous waste,  
Directive 75/439/EEC on waste oils,  
Directive 86/278/EEC on sewage sludge and  
Directive 94/62/EC on packaging and packaging waste**

**FOR THE PERIOD 1998-2000**

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## INTRODUCTION

This report intends to inform the other Community Institutions, Member States and the interested public of the implementation of waste legislation for the period 1998 to 2000, in particular the implementation of

- Directive 75/442/EEC<sup>1</sup> on waste
- Directive 91/689/EEC<sup>2</sup> on hazardous waste (replaced Directive 78/319/EEC)
- Directive 75/439/EEC<sup>3</sup> on the disposal of waste oils
- Directive 86/278/EEC<sup>4</sup> on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture
- Directive 94/62/EC<sup>5</sup> on packaging and packaging waste

It has been drafted according to Article 5 of Directive 91/692/EEC<sup>6</sup> standardising and rationalising reports on the implementation of certain Directives relating to the environment. The Commission has already published a report on the implementation of Directives 75/442/EEC, 91/689/EEC, 75/439/EEC and 86/278/EEC for the period 1995 to 1997<sup>7</sup>, as well as a report for the period 1990-1994<sup>8</sup>.

Under Directive 91/692/EEC Member States are required to submit reports, drawn up on the basis of questionnaires. Questionnaires relating to Directives 75/439/EEC, 75/442/EEC and 86/278/EEC were adopted by Commission Decision 94/741/EC<sup>9</sup> of 24 October 1994. Questionnaires relating to Directives 91/689/EEC and 94/62/EC were adopted by Commission Decision 97/622/EC<sup>10</sup> of 27 May 1997.

Directive 91/692/EEC requires the Commission to publish a consolidated report. The aim of this Community report is to enable Member States and the Commission to assess the progress made in implementing the waste management Directives throughout the Community and, at the same time, provide the general public with information on the state of the environment.

The report is primarily based on information received from Member States; as such, its content depends largely on the completeness, quality and precision of the national contributions. As regards in particular the legal cases mentioned in the report, updated information has been included which is subsequent to the reporting period 1998-2000.

According to Directive 91/692/EEC Member States had to submit their reports by 30 September 2001. The reports from Austria, Germany, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, Sweden, the Netherlands and the UK were transmitted between November 2001 and February 2002. Reports from the 3 regions of Belgium were

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<sup>1</sup> OJ L 194, 25.07.1975, p. 47 as amended by Directive 91/156/EEC (OJ L 78, 18.03.1991, p. 32)

<sup>2</sup> OJ L 377, 31.12.1991, p. 20

<sup>3</sup> OJ L 194, 25.07.1975, p. 31 as amended by Directive 87/101/EEC (OJ L 42, 22.12.1986, p. 43)

<sup>4</sup> OJ L 181, 04.07.1986, p. 6

<sup>5</sup> OJ L 365, 31.12.1994, p. 10

<sup>6</sup> OJ L 377, 23.12.1991, p. 48

<sup>7</sup> COM (99) 752 final of 10.01.2000

<sup>8</sup> COM (97) 23 final of 27.02.1997

<sup>9</sup> OJ L 296, 17.11.1994, p. 42

<sup>10</sup> OJ L 256, 19.9.1997, p. 13

transmitted between April and September 2002. Portugal submitted its reports in October 2002. Ireland submitted its report under Directive 94/62/EC in January 2003.

Most countries reported also electronically, via EIONET (European Environment Information and Observation Network).

An initial assessment of MS reports by the Commission revealed a number of gaps and/or inconsistencies, which were pointed out to the Member States concerned. Some of them provided additional information. For those reports where significant deficiencies remain, the Commission is considering initiating procedures under Article 226 of the EC Treaty.

The table below presents the correspondence between the NUTS (Nomenclature of territorial units for statistics) levels and the national administrative units, which are quoted in various tables throughout this report.

### **Co-operation with the European Topic Centre on Waste and Material Flow (ETC/WMF)**

This is the second time for the waste sector that the report has been worked out in co-operation with the ETC/WMF, which focused mainly on the presentation of the waste data provided in the questionnaires.

The ETC/WMF was set up in June 1997 by the European Environment Agency to act as a centre of expertise for use by the Agency in support of its mission and, specifically, to undertake part of the Agency's Multi-Annual Work Programme. It has established close co-operation with all Member States of the Agency. This co-operation is developed through EIONET (European Environmental Information and Observation Network), which deals with collecting, processing and analysing environmental data, and in particular the National Reference Centres for Waste.

	NUTS 1		NUTS 2		NUTS 3		NUTS 4		NUTS 5	
<b>BE</b>	Régions	3	Provinces	11	Arrondissements	43	-		Communes	589
<b>DK</b>	-	1	-	1	Amter	15	-		Kommuner	276
<b>DE</b>	Länder	16	Regierungsbezirke	38	Kreise	445	-		Gemeinden	16176
<b>GR</b>	Groups of development regions	4	Development regions	13	Nomoi	51	Eparchies	150	Demoi/Koinotites	5921
<b>ES</b>	Agrupacion de comunidades autonomas	7	Comunidades autonomas +Ceuta y Mellila	17	Provincias (4) +Ceuta Mellila	50 2	Comarras (41)		Municipios	8077
<b>FR</b>	Z.E.A.T +DOM	8 1	Régions +DOM	22	Départements +DOM	96 4			Communes	36664
<b>IE</b>	-	1	-	1	Regional Authority Regions	8	Counties/County boroughs	34	DEds/Wards	3445
<b>IT</b>	Gruppi di regioni	11	Regioni	20	Provincia	103	-		Comuni	8100
<b>LU</b>		1		1		1	Cantons	12	Communes	118
<b>NL</b>	Landsdelen	4	Provincies	12	COROP regio's	40	-		Gemeenten	672
<b>AT</b>	Gruppen von Bundesländern	3	Bundesländer	9	Gruppen von Politischen Bezirken	35	-		Gemeinden	2351
<b>PT</b>	Continente +Regioes autonomas	1 2	Cimissaoes de coordenacao regional +Regioes autonomas	5 2	Grupos de Concelhos	30	Concelhos minicipion	305	Freguesias	4208
<b>FI</b>	Manner-Suomi/Ahvenanmaa	2	Suuralueet	6	Maakunnat	19	Seutukunnat	88	Kunnat	455
<b>SE</b>		1	Riksområden	8	Län	24	-		Kommuner	286
<b>UK</b>	Standard regions	11	Groups of counties	35	Counties/Local authority regions	65	Districts	485	Wards/Communities/ Localities	11095
<b>EUR 15</b>		<b>77</b>		<b>206</b>		<b>1031</b>		<b>1074</b>		<b>98433</b>

**Table** : Correspondence between the NUTS levels and the national administrative units.

The national totals of one level take the superior levels belonging to this level into consideration (e.g. Belgium: 10 provinces and 1 unit, Brussels, which belongs also to Nuts 1).



# **DIRECTIVE 75/442/EEC ON WASTE, AS AMENDED BY DIRECTIVE 91/156/EEC**

## **1. INTRODUCTION**

Directive 75/442/EEC<sup>11</sup> constitutes the fundamental legal framework instrument on waste management at Community level. After entering into force in 1977 it was amended by Directive 91/156/EEC<sup>12</sup> in order to incorporate the guidelines set out in the Community Strategy for Waste Management of 1989. In 1996, Annex II of Directive 75/442/EEC containing the lists of disposal and recovery operations was amended by way of Commission Decision<sup>13</sup>. The review of the Community Strategy for Waste Management of 30 July 1996<sup>14</sup> confirmed the main elements of the 1989 Strategy and adapted it to the requirements for the next five years.

The main provisions of Directive 75/442/EEC as amended are in particular:

- definition of waste, crystallised further by the European Waste Catalogue (EWC) as consolidated by Commission Decision 2000/532/EC as amended<sup>15</sup>, and other waste management terminology (Article 1)
- the hierarchy of waste management principles: waste prevention, recovery, safe disposal (Article 3 and 4)
- the principle of proximity and self-sufficiency applying to waste for final disposal and the establishment of an integrated network of disposal installations (Article 5)
- the obligation on the part of Member States to establish waste management plans, which are essential to the realisation of this policy (Article 7)
- permits for establishments and undertakings carrying out disposal and recovery operations (Article 9 and 10)
- inspections by competent authorities (Article 13)
- record keeping requirements (Article 14)
- the polluter-pays-principle (Article 15)
- reporting requirements (Article 16)

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<sup>11</sup> OJ L 194, 25.07.1975, p. 47

<sup>12</sup> OJ L 78, 18.03.1991, p. 32

<sup>13</sup> OJ L 135, 06.06.1996, p.32

<sup>14</sup> COM(96) 399 final, 30.07.1996

<sup>15</sup> OJ L 226, 6.9.2000, p.3 (Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/404/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC) as amended by Commission Decisions 2001/118/EC (OJ L 47, 16.1.2001, p.1) and 2001/119/EC (OJ L 47, 22.1.2001, p.32) as well as Council Decision 2001/573/EC (OJ L 203, 23.7.2001, p.18).

This report is based on the questionnaire adopted by Commission Decision 94/741/EC<sup>16</sup> of 24 October 1994. It covers the period 1998-2000.

In addition to the first part of the questionnaire (INCORPORATION INTO NATIONAL LAW), comments have been incorporated with regard to the state of implementation of the definition of waste and the European Waste Catalogue. This has been done with a view to following up the evaluation made in the Commission's first report on implementation of Community waste legislation for the period 1995-1997.

## **2. INCORPORATION INTO NATIONAL LAW**

### **2.1. National Law**

All 15 Member States confirmed that they have provided the Commission with details of the current laws and regulations in force to incorporate the Directive 75/442/EEC on waste as amended into national law. Lists of national provisions communicated by the Member States concerning Directives 75/442/EEC and 91/156/EEC are available for inspection on the European Union's CELEX Website<sup>17</sup>.

### **2.2. Definition of "waste" and the European Waste Catalogue (Article 1(a))**

Under Directive 75/442/EEC "waste" shall mean any substance or object in the categories set out in Annex I of the directive which the holder discards or intends or is required to discard (Article 1(a), first subparagraph). The Commission has taken measures to establish the so-called European Waste Catalogue (EWC), pursuant to Article 1(a). This is now set down in consolidated form<sup>18</sup> in Commission Decision 2000/532/EC, as amended.

The previous implementation report 1995-1997 noted that numerous divergences existed as between Member States as regards their transposition of the common definition of "waste" set out in Article 1(a) into national legislation. It is clear that correct implementation of the waste definition is of pivotal importance to ensure that Member States implement their waste management obligations correctly under Directive 75/442/EEC and related waste legislation<sup>19</sup>. In particular, this is necessary to ensure that a common scope of environmental protection applies on a Community-wide basis and that the functioning of the internal market is not undermined. Since that report, the transposition of the waste definition still remains an issue with respect to a number of Member States.

In **Italy** Article 14 of the Decree of 8 July 2002 provides for interpretative criteria to the term "discard" as laid down in Article 6(1)(a) of the Italian Decree 22/97 (basic statute on waste) which transposed Directive 75/442/EEC into national law. Specifically, Article 14

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<sup>16</sup> OJ L 296, 17.11.1994, p. 42

<sup>17</sup> <http://www.europa.eu.int/celex>

<sup>18</sup> Non-exhaustive list.

<sup>19</sup> In this context it is relevant to note that the European Court of Justice, in its judgement on joint cases C-418/99 and C-419/99 (ARCO Chemie Nederland and Others), declared, in particular, that the question whether a substance is in fact waste must be determined in the light of all the circumstances, regard being had to the aim of directive 75/442/EEC and the need to ensure that its effectiveness is not undermined.

establishes that there is no decision to discard when the substance or object concerned is either reused in the same or another production or consumption cycle, with or without it having been subject to any pre-treatment with any recovery operation involved. The Commission considers that this provision is inconsistent with the case law of the European Court of Justice and has the potential to exclude certain materials from the scope of Italian waste legislation that would otherwise fall under the Community waste definition.

**Luxembourg** has failed to transpose the EWC, as confirmed by the European Court of Justice on 15 January 2002<sup>20</sup>. Specifically, it has sought to incorporate the EWC by means of ministerial circular binding only on the administration and introduces alongside the EWC a purely domestic nomenclature of waste differing from the EWC.

Notwithstanding recent changes to domestic framework legislation, infringement proceedings are also ongoing against **Austria** concerning the incorrect transposition of the Community waste definition, in particular in respect of the transposition of the EWC.<sup>21</sup> In addition, §5 of the Austrian Waste Management Act 2002<sup>22</sup> introduces a presumption that certain residual substances found in waste (*Altstoffe*<sup>23</sup>) no longer remain waste when they or their material elements are directly used as substitutes for products derived from primary raw material extraction. It is settled case law of the European Court of Justice that the fact that waste may be used as a substitute for products by itself does not mean that the waste may be declassified from the waste definition under Directive 75/44/EEC. Instead, the use of waste is to be assessed according to whether this accords with the appropriate management of waste requirements as set out in Directive 75/442/EEC and related waste legislation.

In December 2001, the Commission decided to refer the **United Kingdom** to the European Court of Justice concerning the incorrect transposition of the definition of waste (case C-62/03). Section 75 of the Environment Protection Act 1990<sup>24</sup> only transposes the requirements of Directive 75/442/EEC in relation to "controlled waste", which is defined under the 1990 Act as meaning only "household, industrial and commercial waste or any such waste". This is a more limited definition than the waste definition set out in Article 1(a) of Directive 75/442/EEC as amended. Similar problems arise in connection with the transposition legislation applicable to Northern Ireland<sup>25</sup> and Gibraltar.<sup>26</sup>

- Since the previous implementation report for 1995-1997, it is apparent that a number of Member States still do not transpose the waste definition correctly into national law. The transposition deadline elapsed on 1 April 1993.

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<sup>20</sup> Case *C-196/01 Commission v Luxembourg* (judgement available on ECJ website: [www.curia.eu.int](http://www.curia.eu.int)).

<sup>21</sup> Case pending with the European Court of Justice *C-194/01 Commission v Austria*.

<sup>22</sup> Namely, the Waste Management Act 2002 (Abfallwirtschaftsgesetz 2002, BGBl I of 16 July 2002, Nr 102, at p989).

<sup>23</sup> 'Altstoffe' are defined in §2(4) subparagraph 1 of the Waste Management Act 2002 as including either waste substances which are separated from other waste or substances which are obtained through a treatment of waste done in order to subject them to a recovery operation.

<sup>24</sup> Applicable to England, Scotland and Wales.

<sup>25</sup> Waste and Contaminated Land (Northern Ireland) Order 1997.

<sup>26</sup> Public Health Ordinance, as amended by Public Health (Waste) (N<sup>o</sup>2) Regulations 1995 and Public Health (Amendment) Ordinance 1997.

### 2.3. Competent Authorities – Article 6

*According to Article 6, Member States have to establish or designate the respective authorities responsible for the implementation of the Directive.*

Table 1 provides an overview of the different structures of the national waste administrations. The number of authorities in the waste sector and their competencies differs widely throughout the European Union.

## 3. IMPLEMENTATION OF THE DIRECTIVE

### 3.1. Waste Management Plans – Article 7

*According to Article 7 (1) the competent authorities shall draw up waste management plans which shall, in particular, relate to the type, quantity and origin of waste to be recovered and disposed of, general requirements, any special arrangements for particular wastes and suitable disposal sites or installations.*

Waste management plans are a key element in the Community's waste management policy as, without appropriate planning, Member States are not in a position to be able to account for and deal with the waste that arises in their territories. In addition to directive 75/442/EEC, Article 6 of Directive 91/689/EEC on hazardous waste and Article 14 of Directive 94/62/EC on packaging and packaging waste require also waste management plans for those wastes.

Table 2 gives an overview of the existing waste management plans. The submitted plans vary widely in their structure, content and degree of detail. One reason is that these plans are worked out on different national, regional and local levels, another reason that Member States have different levels of experience in waste management planning. Whilst the state of national waste management planning in certain parts of the European Union as a whole is still not satisfactory, some notable progress has been made overall since the last report was made.

Fourteen Member States confirmed that they have drawn up waste management plans in order to achieve the objectives of Article 3, 4 and 5 of Directive 75/442/EEC, as amended. **Austria, Denmark, Luxembourg, Spain** and **Sweden** have all drawn up new waste management plans at national level in the period of 1998-2000. France and Germany state that they have drawn up a large number of regional and local waste plans. **Greece** and **Ireland** drew up their national plans as recently as 2001.

In 1997, the Commission brought a raft of infringement actions under Article 226 EC against several Member States<sup>27</sup> for having failed to draw up waste plans in accordance with Article 7 of Directive 75/442/EEC as amended. Since that time, those infringement actions have been reduced to three as several Member States have adopted waste plans in accordance with Directive 75/442/EEC as amended. In 2002, the European Court of

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<sup>27</sup> Namely, against Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, Finland, Sweden and the UK.

Justice confirmed that **France**<sup>28</sup>, **Italy**<sup>29</sup> and the **UK**<sup>30</sup> had failed to implement waste plans as required by Article 7. The Commission decided to initiate a second round of legal proceedings against Italy, under Article 228 of the EC Treaty, for failing to comply with the Court ruling. At the time of writing, the Commission is assessing whether further infringement action against France and the United Kingdom is necessary under Article 228 of the EC Treaty.

Discussions with Member States have revealed an interest in having a European guideline for planning of waste management. The European Topic Centre on Waste is finalising guidelines for waste management planning which should prove a useful tool in order to improve and adjust the level of waste management planning for actual and future Member States. These guidelines are due to appear in 2003.

Collaboration between Member States as referred to in Article 7(2) has taken place between some Member States. **Finland** and **Sweden** have collaborated concerning final disposal of municipal waste<sup>31</sup> and sewage sludge management. **Germany** reported that a number of its Länder consult with adjacent border regions of other Member States on planning (Schleswig-Holstein, Lower Saxony, North Rhine Westphalia and Saarland). **Belgium** reported that the regions of Flanders and Wallonia have consultations and contacts with neighbouring Member States on planning aspects. The **UK** referred to its previous submission for the first report concerning collaboration between the UK and Ireland concerning the incineration of clinical waste in the UK. **Ireland**<sup>32</sup> did not supply any details.

A number of Member States reported that they had provided the Commission with details of measures taken under Article 7(3) to prevent movements of waste which are not in accordance with their waste management plans: **Austria**, **Denmark**, **Spain**,<sup>33</sup> **Italy**, **Luxembourg**, the **Netherlands**, **Finland**<sup>34</sup>, and the **UK**. **Belgium**, **Greece**, **France**, **Germany**, **Portugal** and **Sweden** confirmed that they had not adopted any such measures. **Belgium** stated that the region of Flanders adopted measures on a case by case basis, according to the waste type and factor of capacity, whilst Wallonia had not adopted any general measures. **Ireland** stated that no such measures have been considered necessary.

In the *Copenhagen* case,<sup>35</sup> the ECJ has had occasion to shed light on the interrelationship between Article 7(3) of Directive 75/442/EEC as amended and the rules on transboundary shipments of waste destined for recovery enshrined in the Waste Shipment

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<sup>28</sup> Case C-292/99 *Commission v France*, judgement 02.05.2002 (available on ECJ website [www.curia.int](http://www.curia.int)).

<sup>29</sup> Case C-466/99 *Commission v Italy*, judgement 24.01.2002 (available on ECJ website [www.curia.int](http://www.curia.int)).

<sup>30</sup> Case C-35/00 *Commission v UK*, judgement 24.01.2002 (available on ECJ website [www.curia.int](http://www.curia.int))

<sup>31</sup> Together with Norway.

<sup>32</sup> Ireland referred to its waste management (planning) regulations of 1997 allowing for consultation with relevant local authorities in Northern Ireland.

<sup>33</sup> Spain referred to its Law 10/98 in allowing the possibility of such measures to be taken (at NUTS 2 level).

<sup>34</sup> Finland referred to its Government Decision 14/2000 of 1.2.2000 which amended its National Waste Plan with a view to avoiding overlaps with the Waste Shipment Regulation (EEC) N°259/93.

<sup>35</sup> Case C-209/98 *FFAD v Kobenhavens Kommune* [2000] ECR I-3743.

Regulation (EEC) N° 259/93, as amended (WSR).<sup>36</sup> It confirmed that Article 7(3) must be interpreted as allowing a Member State to take measures in relation to the shipment of waste if the shipment is not in accordance with its waste management plan, on condition that the plan is in conformity with the rules of the EC Treaty and of Directive 75/442<sup>37</sup>. In *Dusseldorp*<sup>38</sup>, the ECJ confirmed that Article 7 of the WSR does not provide for the possibility of Member States adopting measures, based on purely economic considerations, to implement the principles of proximity and self-sufficiency in the context of shipments of waste between Member States destined for recovery. Since the late 1990s, the Commission has taken infringement action against a number of Member States which have taken steps to prevent or restrict exports of waste destined for recovery<sup>39</sup>.

- During 1997-2000 the Commission took legal action against several Member States which failed to ensure that waste plans were in place. By the end of that period the majority of Member States had drawn up plans. Problems persist with France, UK and Italy. Member States have developed some arrangements with one another on waste planning aspects, particularly for cross-border neighbouring areas. The nature of the interrelationship between local/national waste planning and internal market requirements continues to raise a number of legal issues for clarification at judicial level.

### 3.2. Details on Waste Prevention and Waste Recovery – Article 3

*According to Article 3 (1) of the Directive and the Community Waste Management Strategy Member States have to take measures to encourage waste prevention (reduction of waste generation and its harmfulness) and waste recovery (with the preference re-use, recycling and energy recovery).*

Several of Member States simply confirmed that they had provided the Commission with details of measures intended to be taken pursuant to Article 3(1) but did not provide accompanying further information: **Belgium, Denmark, Germany, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Sweden** and the **UK**. Accordingly, in respect of these Member States reference should be made back to the relevant section in the first report for 1995-1997 for information on Article 3(1) implementation measures.

**Greece** referred to its legislative rules on packaging<sup>40</sup> and its establishment of a National Organisation for the Alternative Management of Packaging.

**Portugal** reported that it had notified the Commission of a number of national waste planning documents which include focus on the objectives of preventing or reducing waste volumes and the risks posed. It noted that it had expanded considerably the numbers of separate collection and recycling centres serving the population, from under 1% in 1995 to 80% by 2000.

<sup>36</sup> Regulation (EEC) N°259/93 on the supervision and control of shipments of waste within, into and out of the European Community, as amended (OJ L 30, 6.2.1993, p.1).

<sup>37</sup> At paragraph 95 of judgement.

<sup>38</sup> Case C-203/96 *Chemische Afvalstoffen Dusseldorp BV et al.* [1998] ECR I-4075.

<sup>39</sup> Cases currently pending before the ECJ: C-113/02 *Commission v Netherlands*, C-228/00 *Commission v Germany* and C-458/00 *Commission v Luxembourg*.

<sup>40</sup> Law 2939/2001.

**Finland** reported a number of measures that it has adopted. Notably, its waste legislation<sup>41</sup> contains general duties of care concerning waste prevention and reduction of its quantity and harmfulness. In particular, under Finnish law it is required that producers use raw materials sparingly in production and substitute the use of raw materials with waste to the extent that this is possible. In addition, producers are under a duty of care to ensure that products are durable, repairable or recoverable as waste, and that the hazards emanating from a product in its waste phase are minimised. Competent authorities are required to promote fulfilment of these obligations and use recyclable products or products manufactured from recycled materials. Environmental permits are required in principle to include an account of proposed measures to reduce waste quantities and the hazardousness of waste generated<sup>42</sup>. Finland noted that its national and regional waste plans include targets on waste prevention and measures necessary to achieve those targets. Finally, it referred to related Government Decisions under waste and chemicals legislation, such as on ozone-depleting substances, batteries and accumulators, PCBs and PCTs.

**Ireland** did not report on the state of its implementation of Article 3(1) and referred back to its report for period 1995-1997.

- From the information provided by Member States, it remains unclear whether and to how much waste has been prevented within the European Union over the 1998-2000 period.

### 3.3. Self-sufficiency in waste disposal – Article 5

*Pursuant to Article 5 (1) Member States have to take measures to establish an integrated and adequate network of disposal installations in order to enable the Community and the Member States to become self-sufficient in waste disposal. According to Article 4(3a) i) of Regulation (EEC) No. 259/93 Member States may ban the shipment of waste destined for disposal in another Member State.*

**Austria** reported that under the auspices of its waste plans surveys of available treatment capacities and requirements are carried out at regular intervals for the entire territory. No details were supplied on whether any collaboration exists with other Member States. Some 0.032m tonnes out of a total of 48.6m tonnes of waste generated in Austria in 1999 were exported for disposal, representing over 99% self-sufficiency.

**Belgium** reported that it had not taken any measures for the purposes of implementing Article 5(1). Co-operation with other Member States for this purpose has taken place with the Flemish Region, this being under the auspices of EU legislation on waste shipments<sup>43</sup>. Apart from discussions between this Region and the Netherlands, no structures for co-operation exist. No specific information was supplied regarding the extent to which Belgium was self-sufficient in waste disposal for the period 1998-2000.

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<sup>41</sup> Section 4 of the Finnish Waste Act 1072/1993. See also Decree 1390/1993 for other related obligations.

<sup>42</sup> Finnish Environmental Protection Act 86/2000 and Decree 169/2000.

<sup>43</sup> Regulation (EEC) N°259/93 on the supervision and control of shipments of waste within, into and out of the European Community, as amended (OJ L 30, 6.2.1993, p.1).

**Denmark** reported no change from its position with respect to the first report 1995-1997 in terms of measures adopted. As regards self-sufficiency, it stated that total waste production in Denmark stood at 12.2m tonnes in 1999. Of this quantity, some 7.8m tonnes was recycled, 2.93m tonnes incinerated, 1.47m tonnes disposed of and 0.017m tonnes was subject to special treatment.

**Finland** confirmed that it had taken measures to fulfil Article 5(1). The general targets and measures to achieve them are defined in legislation<sup>44</sup> and have been further specified in the National Waste Plan adopted in 1998. The plan outlines the targeted infrastructure of the network of waste management installations in Finland by 2005. Municipal waste management is based on regional co-operation. Hazardous wastes are disposed of or recovered in centralised plants. The responsibility for recovery and final disposal of industrial, agricultural and construction waste lies with the waste producers. Collaboration exists with Sweden as regards border areas. In terms of the degree of self-sufficiency in waste disposal, Finland confirmed the following amounts of waste exports for 1999: 0.0034m tonnes out of a total of 2.4m tonnes of solid municipal waste (over 99.8% self-sufficient); 0.000086m tonnes out of a total of 0.678m tonnes of hazardous waste (some 100% self-sufficiency).

**France** affirmed that it had taken legislative measures for the purposes of fulfilling Article 5(1)<sup>45</sup>. No details were supplied on whether any collaboration exists with other Member States. In terms of self-sufficiency in waste disposal, France reported that each year some 0.02m tonnes out of a total of 3m tonnes of hazardous waste are exported for disposal (approximately 99.3% degree of self-sufficiency), while for municipal waste the degree of self-sufficiency is nearly 100%.

**Germany** reported taking the following measures in fulfilment of Article 5(1): extensive plans for waste treatment plants and disposal sites, co-ordinated as between neighbouring Länder (regional states). Co-operation agreements exist between Länder with a view to making fuller use of available treatment facilities such as waste disposal sites, thermal treatment plants and underground disposal sites<sup>46</sup>. The Brandenburg/Berlin joint hazardous waste company was cited as an example. Various Länder are reported to have programmes providing financial support in the field of waste management. As regards collaboration with other Member States for this purpose, Germany referred to its position provided for the 1995-1997 report<sup>47</sup>. As far as the degree of self-sufficiency in terms of waste disposal is concerned, Germany reported that in 2000 it exported some 1.3m and 0.09m tonnes of hazardous waste for recovery and disposal respectively. It noted that in 2000 some 1.5m and 0.4m tonnes of hazardous waste was imported for recovery and disposal respectively. Most Länder are reported by Germany to endeavour to be self-sufficient in waste management.

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<sup>44</sup> Waste Act 1072/93, section 6.

<sup>45</sup> Law N° 76-663 of 19 July 1976.

<sup>46</sup> An example of such co-operation between Länder is provided in the recent ECJ judgement *Case C-324/99 DaimlerChrysler AG v Land Baden-Württemberg (LBW)* [2001] ECR I-9897, in which LBW arranged for waste requiring special supervision to be sent to Hamburg for treatment.

<sup>47</sup> It is also clear that Germany is prepared to import quantities of waste from other Member States for the purposes of underground deposition: see *Case C-6/00 Abfall Service AG (ASA) v Bundesminister für Umwelt, Jugend und Familie*, ECJ judgement of 27.2.2002 (not yet reported).



**Greece** reported that it had not taken any measures to fulfil the obligation in Article 5(1). Such elements are included in the 2002 update of its waste strategy aiming at integrated management on a regional basis. Without providing specific details, it confirmed that collaboration for this purpose exists between Greece and other Member States as regards transfrontier shipment of both hazardous and non-hazardous waste for recovery or disposal. This is reported to take the form of collaboration between undertakings operating in the field of waste management, subject to consent of the competent authorities<sup>48</sup>. In response to the question on degree of self-sufficiency in waste disposal, Greece reported that 31.7% of domestic waste is disposed of at so-called 'Waste Hygienic Landfill Sites', whereas 59,6% is disposed at sites in Greece which do not fulfil all of the conditions imposed by legislation in force. 8% and 0.7% of such waste is reported to be recycled and composted respectively.

**Ireland** affirmed that it had taken Article 5(1) measures<sup>49</sup> and referred to financial assistance allocated under the EU Structural Funds for relevant infrastructure. Collaboration has been established with the UK according to which hazardous waste requiring high temperature incineration may be exported to the UK for disposal on an indefinite basis. Ireland stated that there is a high degree of self-sufficiency in terms of disposal of non-hazardous waste and reported that in 1998 some 98000 tonnes out of a total of 370328 tonnes of hazardous waste were exported for treatment or disposal.

**Italy** affirmed that it had taken Article 5(1) measures in the form of its regional waste plans as notified to the Commission, without providing further details. No details were supplied on whether any collaboration exists with other Member States. Italy confirmed that it was close to being totally self-sufficient in terms of waste disposal.

**Luxembourg** confirmed that the disposal of waste is taken care of by various installations at national level, suitable for household, industrial and inert waste. It reported that formalised co-operation with other Member States is defined within the framework of the national waste plan, which identifies the priorities for waste flows. Some 0.05m tonnes of waste were exported for disposal annually to other Member States over the period 1998-2000. Luxembourg reported the following amounts of waste exported in 2000: some 0.003m tonnes out of a total of some 0.191m tonnes of municipal waste (98.4% self-sufficiency); some 0.051m tonnes out of a total of 0.061m tonnes of hazardous waste (16.4% self-sufficiency). Luxembourg reported 100% self-sufficiency for inert waste other than those disposed at municipal or small private waste disposal sites.

The **Netherlands** referred to its waste management plans as including measures to ensure sufficient capacity for the disposal of waste. These include the planning and construction of waste disposal plants for the incineration on land<sup>50</sup> and landfill of hazardous and non-

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<sup>48</sup> Presumably, this is a reference to the operation of Regulation (EEC) N°259/93 on the supervision and control of shipments of waste within, into and out of the European Community, as amended (OJ L 30, 6.2.1993, p.1).

<sup>49</sup> Relevant provisions are included in sections 22, 26 and 38 of its Waste Management Act of 1996.

<sup>50</sup> In 1998, the Netherlands was found to have breached the Waste Shipment Regulation (EEC) N° 259/93 in having imposed restrictions on exports of waste destined for recovery with a view to safeguarding capacity for domestic thermal treatment installation(s), the ECJ confirming that the principles of self-sufficiency and proximity do not apply: *Case C-203/96 Chemische Afvalstoffen Dusseldorp BV* [1998] ECR I-4075. See also follow up *Case C-113/02 Commission v Netherlands*, pending before the ECJ. A related case is currently pending before the ECJ on whether municipal

hazardous wastes. It reported that the capacity for the disposal by incineration and landfill of waste is currently sufficient to dispose of all waste produced in the Netherlands for the foreseeable future. No collaboration with other Member States was reported to have been established for the purpose of implementing Article 5(1). In terms of self-sufficiency for waste disposal, the Netherlands reported that it was virtually self-sufficient, the quantities of waste either exported or imported for disposal being limited. It noted though that special circumstances may arise occasionally for there to be temporary exports for disposal other than to landfill for which there is sufficient capacity.

**Portugal** confirmed that it had taken a series of measures to implement Article 5(1). As regards the disposal of solid urban waste, Portugal has a network of intermunicipal and multimunicipal systems in place. It reported recent measures being instituted in order to introduce new controls on the disposal of non-hazardous industrial waste<sup>51</sup> as well as development of dedicated sites for the disposal and storage of industrial hazardous waste. Special measures are applied in relation to the disposal of hospital waste types. Certain special waste streams (such as waste oils, used tyres, sludges, spent batteries) are treated irrespective of their origin and for the most part, specific legislation has been adopted providing integrated management directed towards facilitating recycling. Portugal confirmed that no collaboration has taken place with other Member States on fulfilling Article 5(1). In 1999, some 0.031m tonnes out of a total of 12.78m tonnes of waste generated in Portugal was exported for disposal (representing over 99% self-sufficiency).

**Spain** reported that it had adopted Article 5(1) measures in its waste plans and affirmed that it had collaborated with other Member States for the purpose, without providing details. In terms of self-sufficiency in waste disposal, Spain reported that in 1999 all the urban waste arising in Spain was managed in that country. Waste is imported from Andorra and Gibraltar. Spain reported that in 1999 some 3.29m tonnes of hazardous waste was generated, of which some 0.03m and 0.02m tonnes was exported for recovery and disposal respectively. It noted that some 0.08m and 0.03m tonnes of hazardous waste was imported for recovery and disposal respectively.

**Sweden** affirmed that it had taken Article 5(1) measures in the form of its regional waste plans as notified to the Commission, without providing further details. Sweden reported that in general terms it has a degree of 100% self-sufficiency in waste disposal. Collaboration exists with Finland in boarder areas where local circumstances so warrant.

The **United Kingdom** confirmed that since the last report it has put in place national waste strategies for England and Wales (May 2000), Scotland (December 1999), Northern Ireland (March 2000) and also for Gibraltar (March 2000). These strategies are reported to operate in conjunction with the relevant planning guidance for each area, to give integrated management strategies for all controlled waste. The UK Waste Management Plan for Exports and Imports of Waste 1996 serves to implement the principle of national self-sufficiency, prohibiting exports of waste for disposal. Reference should be made to the previous implementation report for 1995-1997 on collaboration

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solid waste incineration constitutes a recovery or disposal operation, which will have a significant impact on the scope of Member States in being able to block exports of waste destined for MSWI in other Member States, as the principles of self-sufficiency and proximity apply in relation to intra-Community waste shipments destined for disposal (see Article 4(3)(a) of the Waste Shipment Regulation (EEC) N°259/93, op cit): *Case C-458/00 Commission v Luxembourg*.

<sup>51</sup> Decree-Law 321/99 of 11 August 1999.

with other Member States. The United Kingdom estimated that it was 98.4% and 98.5% self-sufficient for waste disposal for the periods 1998/1999 and 1999/2000 respectively.

- Overall, most Member States reported that they had attained high degrees of self-sufficiency in terms of waste disposal of around 99%, which essentially restates the position of the previous implementation report for 1995-1997.

### 3.4. Details on waste generation and treatment - Article 7 (1)

In the questionnaire Member States were asked to provide data on the generation and management of domestic waste, hazardous waste, and other wastes.

As regards **domestic/municipal waste** (Table 3.1<sup>52</sup> and Figure 1) all countries supplied data but in some cases not for all 3 years of the reporting period. The data received indicate that the percentages of waste recycling differ widely from 8 to 63%. Only five Member States achieved a recycling rate of around 40% or over (Austria, Belgium, Germany, Netherlands and Sweden) whereas five other Member States only achieved recycling rates of around 10% or under (France, Greece, Ireland, Italy and the UK). The mean recycling rate was some 26%. Incineration, regardless of whether with or without energy recovery, is shown to be continuing as an important part of domestic waste management in ten Member States (17% to 58%), while Greece and Ireland do not apply incineration at all. The mean rate for incineration (with or without energy recovery) was 23%. However, the most common handling still remains disposal on landfills with the average being 45% amongst the Member States. Five Member States indicated high dependency rates on landfill for domestic waste (above 60%)<sup>53</sup>. These figures indicate an overall slight improvement in recycling rates since the 1995-1997 implementation report, but landfill continues to dominate as the primary means of waste management in respect of domestic waste. The approximate average weight of waste produced per capita annually during the 1998-2000 period was some 500kg. This indicates an increase in the production compared to the period 1995-1997 (average 400 kg/person/year) and clearly falls far short of the objective contained in the Commission's Fifth Environmental Action Programme for a stabilisation of waste generation to 1985 levels of 300 kg per capita by 2000, and indicates that much greater effort needs to be made at national level to promote effective waste prevention and reduction measures.

For **hazardous waste** (Table 3.2 and Figure 2) all countries supplied data but in some cases not for all 3 years of the reporting period. The data received indicate a wide variation in recycling rates (from 5% (Finland) to 77% (Luxembourg)) with only four Member States attaining rates around or higher than 40%. The mean rate of recycling of hazardous waste amongst the Member States approximated 27%. Unlike the data on domestic waste, the mean rate of landfilling is lower (22%) but another 27% in average was reported as "other treatment". The average production of hazardous waste (90 kg/person/year) is in the same range as in 1995-1997.

"**Other wastes**" constitute the biggest part of the generated waste (see Table 3.3 and Figures 3 and 4). It is not possible to provide a clear picture on "other wastes" for their

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<sup>52</sup> Some Member States provided figures on municipal waste which may include, in addition to domestic waste, commercial, industrial and institutional waste of a similar nature.

<sup>53</sup> Furthermore, in Greece the largest proportion of "other treatment" represents illegal dumping of waste.

composition and handling throughout the European Union as Member States included different fractions or even did not provide any figures.

- The success of waste recycling continues to differ widely between Member States, a feature noted in the previous implementation report 1995-1997. The average recycling rate has increased but a number of Member States still achieve relatively small or modest rates of recycling of domestic waste. Despite a decreasing tendency, a good number continue to rely heavily on landfill as means of disposing domestic waste. Some Member States have a high rate of incineration; but even with energy recovery (for which different criteria are used at national level) incineration is generally an inferior option to other waste treatment alternatives further up the waste hierarchy, such as reuse and material recycling. Prospective and recent legislative initiatives on packaging waste<sup>54</sup>, end-of-life vehicles<sup>55</sup> and electrical and electronic waste<sup>56</sup> focus on especially high recycling rates as well as separate collection of waste at source as the means.

### 3.5. General rules to provide exemptions from the permit requirement – Article 11

*Pursuant to Article 11 Member States may exempt establishments and undertakings carrying out their own waste disposal at the place of production or recovery operations from the permit requirement (Article 9 and 10).*

**Belgium, Denmark, Germany, Greece, Spain, France, the Netherlands, Austria, Portugal, Finland and Sweden** confirmed that they had not adopted any general rules to provide exemptions from any waste permit requirements.

**Ireland, Italy** and the **United Kingdom** confirmed that they had adopted such rules without providing practical details. **Luxembourg** confirmed that it had also done so.

- As was the case for the previous implementation report, relatively few Member States have implemented the possibility for exempting permit requirements in 1998-2000. Disappointingly, no reason or advantages have been provided by those Member States who have done so. This remains a very underdeveloped area. Recently, Italy has requested and been granted the possibility to exempt undertakings from having to obtain permits in respect of certain types of hazardous waste recovery under the auspices of Article 3 of Directive 91/689/EEC<sup>57</sup>. This is the first example of such an exemption.

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<sup>54</sup> COM(2001)729final Commission proposal for a Directive of the European Parliament and of the Council amending Directive 94/62/EC on packaging and packaging waste.

<sup>55</sup> Directive 2000/53/EC of the European Parliament and Council on end-of-life vehicles, OJ L 269, 21.10.2000, p.34.

<sup>56</sup> COM(2000)347final Commission proposal for a Directive of the European Parliament and Council on waste electrical and electronic equipment. The proposal was recently adopted on 16-19.12.2002 by Council and European Parliament (not yet published in Official Journal). (For further details see <http://www.europa.eu.int/prelex/apcnet.cfm?CL=en>)

<sup>57</sup> Commission Decision 2002/909/EC on Italian rules waiving permitting requirements for undertakings and establishments recovering hazardous waste under Article 3 of Directive 91/689/EEC on hazardous waste, OJ L 315, 19.11.2002, p.16.

### 3.6. Keeping records – Article 14

*Pursuant to Article 14 establishments and undertakings carrying out recovery and disposal operations have to keep records on waste and waste management. Producers might be included in the provisions. They have to make this information available at the request of the competent authorities.*

As regards **Belgium**, the Flemish region requires records to be kept on the basis of Article 5.2.1.2§4 of Decree Vlarea II<sup>58</sup>. Section 5.1.5 of Decree Vlarea supplements these registration obligations. Reference should be made to the 1995-1997 implementation report on producer responsibilities under Article 14.

**Denmark** referred to particular provisions on the requirement of establishments and undertakings engaged in waste recovery or disposal to keep records<sup>59</sup>. Denmark also confirmed that certain companies are required to keep records in relation to waste production as from 2001 for a five year period, and such information is to be made accessible by competent authorities<sup>60</sup>.

**Germany** confirmed that its waste legislation stipulates record keeping requirements for establishments and undertakings carrying out recovery or disposal operations<sup>61</sup>. Monitoring of waste management is carried out by means of certification and keeping of records and documents. Reference should be made to the 1995-1997 implementation report for further details.

**Greece** reported that its waste legislation stipulates record keeping requirements for establishments and undertakings carrying out recovery or disposal operations and for producers of waste<sup>62</sup>. Specifically, they are required to keep records and make these available to the competent authorities when requested. Such entities are to forward this information to the prefect of the area in which the installation concerned is located or where operations are carried out on an annual basis. Each prefect concerned is required to submit an annual explanatory report to the Minister for the Environment, Regional Planning and Public Works.

**Spain** also confirmed that its waste legislation stipulates record keeping requirements for waste disposal and recovery undertakings<sup>63</sup>, without providing further practical details. It noted that producers of hazardous waste are required to comply with Article 14 under Spanish legislation<sup>64</sup>.

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<sup>58</sup> Flemish regulations on the prevention and management of waste.

<sup>59</sup> Sections 15-17 of the Ministry of the Environment and Energy's Order N°619 of 27 June 2000 on the Information System for Waste and Recycling (ISAG).

<sup>60</sup> See sections 18, 19, 50 and 53 of the Ministry of the Environment and Energy's Order N°619 of 27 June 2000 on waste.

<sup>61</sup> See the Closed Substance Cycle Waste Management Act 1994, Ordinance on Certification of Recovery and Disposal, Ordinance on Specialised Waste Management Companies, Technical Guidelines for the Storage, Chemical, Physical and Biological Treatment, Incineration and Dumping of W Requiring Particular Monitoring and the Technical Guidelines for the Recovery, Treatment and Other Forms of Management of Domestic Waste.

<sup>62</sup> Joint Ministerial Decision 69728/824/1996 (Gov. Journal 358/B).

<sup>63</sup> Article 13(3) of Law 10/1998 on waste.

<sup>64</sup> Articles 16-17 of Royal Decree 833/1988.

**France** likewise confirmed that its waste legislation stipulates record keeping requirements for waste disposal and recovery undertakings as well as for producers<sup>65</sup>, without providing further practical details.

**Ireland** confirmed that there are requirements on record keeping, incorporating standardised formats. Producers of hazardous waste are obliged<sup>66</sup> to keep records of the generation, treatment, collection and transport of such waste and make them available for inspection by competent authorities.

**Italy** reported that its waste legislation contains a number of record keeping and related certification requirements binding on waste disposal and recovery undertakings as well as for producers of hazardous waste (except certain agricultural undertakings) and producers of non-hazardous waste engaged in industrial and craft processes (with the exception of certain small operators)<sup>67</sup>. Record keeping is standardised and subject to periodic certification procedures with the competent authorities.

**Luxembourg** restated that the Community provision has been transposed by Article 14 of the Law of 17 June 1994. The establishments, which have to keep records and which may be exempted are listed in Article 10 and 11 of that law.

The **Netherlands** reported that it required establishments and undertakings which treat, process or dispose of waste to keep records of the nature and composition of the waste handled. It confirmed that there is no standard form of registration, and as a general rule such establishments and undertakings are allowed to keep the records in a form which suits them. Standard forms are used to inform competent authorities of the receipt of waste. The Netherlands confirmed that producers of waste are also required to keep records of waste handed over. In addition they are also required to provide the transferee of the waste with regard to the nature and composition of the waste.

**Austria** confirmed that its waste legislation requires anyone who performs an activity which generates waste, or who collects or treats waste must maintain records for each year and provide competent authorities with such information upon request<sup>68</sup>. Such records are to be held for at least seven years. Austria confirmed that producers are subject to record keeping obligations under this national legislation.

**Portugal** confirmed that its waste legislation stipulates record keeping requirements for waste disposal and recovery undertakings as well as operators carrying out waste storage activities<sup>69</sup>. Specific record keeping duties are allocated to managers of hospital waste<sup>70</sup>, collectors and regenerators of waste oils<sup>71</sup>, undertakings disposing or decontaminating PCBs<sup>72</sup> as well for entities authorised to issue destruction or qualified dismantling certificates for end-of-life vehicles<sup>73</sup>. Producers of waste are also subject to record

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<sup>65</sup> Article 8 of the "Arrêté du 4 janvier 1985 relatif au contrôle des circuits d'élimination des déchets générateurs de nuisances".

<sup>66</sup> In accordance with Part VI of the waste management (hazardous waste) regulations of 1998.

<sup>67</sup> Decree Law 22/1997.

<sup>68</sup> Waste Management Act and Waste Control Ordinance 65/1991.

<sup>69</sup> Chapter IV of Decree Law 239/97 of 9.9.1997.

<sup>70</sup> Article 12 of Order 174/97 of 10.3.1997.

<sup>71</sup> Article 3(2) of Decree Law 88/91 of 23.2.1991.

<sup>72</sup> Article 5 of Decree Law 277/99 of 23.7.1999.

<sup>73</sup> Article 3 of Decree Law 292-B/2000 of 15.11.2000.

keeping obligations and to deliver registers of the waste produced to competent authorities<sup>74</sup>.

In **Finland** waste recovery and disposal undertakings requiring environmental permits are subject to record keeping obligations<sup>75</sup>. Both record records and annual reporting to competent authorities are recommended to be made in standard format; forms are distributed to operators by the competent authorities. Producers of hazardous waste (excluding households) are also obliged to keep records.

**Sweden** reported that its environmental code contained record keeping requirements, without providing specific details. It noted that producers are not subject to record keeping obligations in Sweden.

- Most Member States appear to have implemented their record keeping obligations under Article 14. Some indicate that they have developed producer-related obligations in addition to those for producers of hazardous waste. The experience gained from Member States in implementing record keeping obligations remains an underdeveloped area.

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<sup>74</sup> Article 17(1) of Decree Law 239/97.

<sup>75</sup> Section 51 of the Finnish Waste Act.

## **Annex I**



N (1)	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Lux.- bourg	Nether- lands	Portugal	Spain	Sweden	UK
Number of authorities or institutions (2)	N0=1 N2=18 N4=100	N1=2 N2=5 N4=308	N1=1 N3=16 N5=276	N1=1 N3=13 N5=448	N0=1 N2=26 N3=100	N0=1 N1=16 N2=40 N3=441	N0=1 N2=13 N3=54 N5=1033	N2=1 N4=34	N1=11 N2=20 N3=103 N5=8100	N0=2	N0=1 N2=12 N4=550	N2=10 N4=308	N0=1 N2=19 N3=54 N5=8077	N1=1 N2=4 N3=21 N4=289	N0=5 N1=5 N3=202
Waste management plans (Article 7 - 1) (3)	N0	N1	N1 N3	N1 N3	N0 N2 N3	N1 N2	N0 N2 N3 N5	N2 N4	N2	N0	N0 N2	N4	N0 N2 N3 N5	N1 N4	N0 N1 N3
Permits for disposal operations (Article 9 - 1) (3)	N0 N2 N4	N1 N2 N4	N3	N3 N5	N0 N2 N3	N2 N3	N0 N3	N2 N4	N2	N0	N0 N2 N4	N2 N4	N2 N3 N5	N2 N3	N0 N1
Permits for recovery operations (Article 10) (3)	N0 N2 N4	N1 N2 N4	N3 N5	N3 N5	N2 N3	N2 N3	N0 N3	N2 N4	N2	N0	N0 N2 N4	N2 N4	N2 N3 N5	N2 N3	N0 N1
Registrations of exemptions from requirements of Article 9 and 10 (Article 11) (3)		N2	N3	N3		N2 N3		N2 N4	N3	N0	N0				N0 N1
Registrations of establishments or undertaken pursuant to Article 12 (3)	N2	N2	N5	N3	N2 N3	N3	N0		N1	N0	N0 N2 N4		N2		N0 N1
Comments							(4)	(8)			(7)	(5)			(6)

**Table 1.** Number of competent authorities in each of the NUTS levels designated pursuant to Article 6 and the competence in relation to the directives (Questionnaire, Paragraph I, Question 2).

## Notes:

- (1) N is a type of authority and a shortening for NUTS: Nomenclature of territorial units for statistics (Eurostat).
- (2) Number of authorities is given in short for example by: N2=5 is equal to 5 authorities/institutions of NUTS-level 2.
- (3) The other information in the table is given in the boxes for example by: N3, N5 is equal to incorporation of the articles at authorities/institutions of type NUTS 3 and NUTS 5.
- (4) N5: Local waste management planning (siting of bins, routing of refuse collection vehicles etc.)
- (5) No information on NUTS level N0, N2: Competence for granting planning permission and for approving environmental terms, N3: Publicising of environmental impact assessments (EIA); granting of permits; controls.
- (6) N0: UK Government, Scottish Executive, Northern Ireland Assembly, National Assembly for Wales, Gov. of Gibraltar. N1: England/Wales (DEFRA+EA), Scotland (SEPA), Northern Ireland (EHS), Gibraltar (Gov. Gibraltar). N3: Local or District authorities: 121 UAs and WDAs in England, 22 in Wales, 32 in Scotland, 26 in Northern Ireland, 1 in Gibraltar.
- (7) N0: Permits for Disposal and Recovery Operations: issues declaration of no objection to provincial permits. Registration of establishments or undertakings pursuant to (Art. 12): with regard to waste oil. N4: with regard to collection within the municipality.
- (8) N2: Registration of Establishments or Undertakings Pursuant to Article 12 is not applicable. Ireland is a NUTS 2 level Region - The Environmental Protection Agency is the relevant Authority/Institution

Country/ Authority							Area covered	Comments
	Adoption/ publication	Start of application or last update	End of application	Domestic Waste (yes/no)	Hazardous Waste (yes/no)	Others (specify)		
<b>Austria</b>								
Bundesminister für Umwelt, Jugend und Familie	01-jul-01	01-jul-01	30-jun-04	Yes	Yes	Yes	Austria	Extended every three years
<b>Belgium</b>								
OVAM (1)	08-jun-97	01-jan-97	31-dec-02	Yes	No	All	Flemish region	(1): Flemish Environmental Environmental Plan (MINA Plan 2)
OVAM (2)	23-maj-95	23-maj-95	31-dec-02	No	No	Construction waste	Flemish region	(2): Management plan for construction waste and sludge B and S; construction waste and sludge;
OVAM (3)	23-maj-95	23-maj-95	14-mar-00	Yes	No	GFT, green	Flemish region	(3): Management plan for vegetable, fruit and garden waste and green waste. Replaced by (8)
OVAM (4)	01-jun-97	20-feb-98	31-dec-01	Yes	Yes		Flemish region	(4): Management plan for domestic waste 1997-2001
OVAM (5)	28-jan-00	14-mar-00	31-dec-02	No	No	Companies	Flemish region	(5): Management plan for the separate collection of industrial waste from small firms.
OVAM (6)	08-jun-99	27-jul-99	31-dec-02	Yes	No	Packaging	Flemish region	(6): Management plan for packaging waste
OVAM (7)	17-mar-00	17-maj-00	31-dec-10	No	Yes		Flemish region	(7): Plan for the elimination of PCB's
OVAM (8)	21-jan-00	14-mar-00	31-dec-02	Yes	No	Organic biological	Flemish region	(8): Implementation plan for organico-biological waste
<b>Denmark*</b>								
National Waste Management plan	01-jan-01	01-jan-01	2004	Yes	Yes	Yes	Denmark	

<b>Finland</b>								
1 national plan 1998-2005	07-feb-98	08-jan-98	01-jan-05	Yes	Yes	See the report for the period 1995-97 for further information on wastes and areas covered by the National Waste Plan and it's separate part concerning transfrontier movements of wastes.	Finland 13 REC's	
13 Regional Authorities	01-jan-96	01-jan-96	01-jan-05	Yes	Yes	See the report for the period 1995-97 for further information on wastes and areas covered by the Regional Waste Plans.		
<b>France</b>								
100 regional plans	Varies	Varies	Varies	Yes	Yes	Varies	Regions	
<b>Germany</b>								
42 regional plans (Bundesländer)	Varies	Varies	Varies	Yes	Yes	Varies	Regions	
<b>Greece</b>								
Ministry of the Environment	Varies (1997-2001)	02-jan-00	02-jan-00	Yes	No		National	
Prefectural plans	02-jan-00	02-jan-00	02-jan-00	Yes	No		Prefecture	
Attica Region	29-sep-01	02-jan-00	02-jan-00	Yes	Yes		Regional	
Western Macedonia Region	02-dec-98	02-jan-00	02-jan-00	Yes	No		Regional	
<b>Ireland</b>								
Env. Protection Agency	05-jul-01	05-jul-01	04-jul-06	No	Yes		National	
Regional Authorities (Counties)	Varies 1999-2001	Varies 1999-2001	Varies 2004-2006	Yes	No	Comm/Incl	Regional	
<b>Italy</b>								
<b>Luxembourg</b>								
National plan	15-dec-00	15-dec-00	15-dec-05	Yes	Yes	Yes	Luxembourg	

<b>Netherlands</b>								
Kingdom (NUTS 2)	01-jul-97	01-jul-97	02-jan-00	No	Yes		National	In 2002 all waste management plans, were replaced by the National Waste Management Plan (Landelijk Afvalbeheer Plan - LAP).
Kingdom (NUTS 2+4)	01-jan-95	01-jan-99	02-jan-00	Yes	No	Commercial	National	
Provinces	Varies	Varies	Varies	Yes	Yes	Commercial	Province	
<b>Portugal</b>								
	01-jan-99	01-jan-99	01-jan-15	No	Yes	Non-haz. industrial waste	National	
	01-jan-99	01-jan-99	01-jan-05	No	Yes	Non-haz. hospital waste	National	
	01-jan-00	01-jan-01	01-jan-15	No	Yes	Non-haz. industrial waste	National	
	01-jan-99	01-jan-99	01-jan-16	Yes	Yes	Non-hazardous hospital waste, slaughterhouse waste and other special waste streams	Madeira	
	01-jan-99	01-jan-00	01-jan-05	Yes	No	No	Azores	
	01-jan-97	01-jan-97	01-jan-05	Yes	No		Mainland Portugal	
<b>Spain</b>								
Ministry of environment	07-jan-00	01-jan-00	31-dec-06	Yes	No	Packaging	Spain	
	17-feb-95	01-jan-95	31-dec-05	No		Contaminated soil	Spain	
31 regional plans	Varies	Varies	Varies	Yes	Yes	Varies	Regions	
<b>Sweden*</b>								
National waste strategy	03-april-99	03-april-99		Yes	Yes	Yes	Sweden	
Various regional waste management plans	Varies	Varies	Varies				Regions	
<b>UK</b>								
DEFRA	01-maj-00	01-maj-00	01-maj-20	Yes	Yes	All controlled waste	Eng/Wales	
Gov. of Gibraltar	01-mar-00	01-mar-00	01-mar-05	Yes	Yes	All controlled waste	Gibraltar	Waste management plan due for review 2005.
Scottish EPA	09-dec-99	09-dec-99	09-dec-20	Yes	Yes	All controlled waste	Scotland	
Northern Ireland assembly	01-mar-00	01-mar-00	01-mar-20	Yes	Yes	All controlled waste	N. Ireland	

**Table 2.** Overview of waste management plans in Member States. For each waste management plan, which has been drawn up, details are provided in tables in appendix (Questionnaire, Paragraph II, Question 1c)).

Notes:

\* Information achieved from WasteBase

Domestic waste	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	UK
Year	1999	1999	2000	2000	1999	2000	2000	2000	1999	2000	2000	2000	1999	2000	1999
Total (ton/year)	3,096,000	3,221,582	2,964,000	2,600,000	41,100,000	41,898,293	4,447,250	2,364,196	26,074,581	224,889	8,645,000	4,531,169	16,235,966	3,776,100	29,500,000
Recycled (ton)	1,476,000	2,022,067	869,000	750,000	3,300,000	18,452,860	355,780	270,979	2,209,045	37,169	3,860,000	559,707	3,308,686	1,451,100	3,040,000
Incinerated with energy recovery (ton)	511,000	0	1,730,000	270,000	9,800,000	10,340,518	0	0	377,125	125,992	3,645,000	929,635	1,229,345	1,460,000	2,290,000
Incinerated (ton)	0	695,453	0	0	1,400,000	0	0	0	1,743,718	0	0	0	25,024	0	10,000
Landfill (ton)	1,023,000	504,062	361,000	1,580,000	23,900,000	12,918,382	1,410,387	2,093,217	21,744,693	61,728	1,140,000	2,451,507	10,800,200	865,000	24,050,000
Other (ton)	86,000	0	4,000	0	2,700,000	186,533	2,681,083	n.a.	0	0	0	590,320	872,711	0	110,000
Comments	**	**	**	* 1)	2)	**	* 3)	** 4)	* 5)	* 6)	*	*	* 7)	**	** 8)

**Table 3.1.** Treatment and handling of domestic waste (Questionnaire, Paragraph II, Question 4).

n.a.: no answer

Note:

\* Municipal waste including household waste

\*\* Household waste

- (1) The quantity of domestic waste is approximately 40 % of MSW.
- (2) Other treatment corresponds to composting
- (3) "Other treatment": 31000 t is composting and the rest represents illegal dumping of waste.
- (4) Quantity landfilled includes street cleansing waste
- (5) The quantity recycled consists of compost and RDF (Refuse Derived Fuel).
- (6) Recycled quantities concern only organic waste subject to composting; recycling of other fractions is not carried out in Luxembourg
- (7) Total arising 18.376.532 t. Other: selective collection of paper and glass.
- (8) All figures are estimated

<b>Hazardous waste</b>	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxem Bourg	Netherlands	Portugal	Spain	Sweden	UK
Year	1999	2000	2000	2000	1998	2000	2000	1999	1998	2000	2000	2000	1999	1998	1999
Total (tonnes/year)	997,000	13,648	183,300	1,203,000	2,690,000	10,058,000	391,459	415,632	3,080,000	45,222	1,828,000	260,067	2,712,323	792,000	6,000,000
Recycled (*)	93,800	8,115	70,900	66,000	220,000	2,030,000	74,152	101,473	860,000	34,781	252,000	27,987	1,096,152	170,000	
Incinerated with energy recovery (*)	153,700	0	79,800	69,000	0	160,000	18,695	2,835	130,000	0	322,000	19,415	196,550		
Incinerated (*)	0	4,809	0	35,000	1,350,000	1,060,000	3,139	17,880	500,000	0	0	19,827	33,567	40,000	
Landfill (*)	515,000	0	13,800	794,000	800,000	2,540,000	0	31,929	390,000	0	414,000	14,137	1,332,864	186,000	
Other (*)	120,000	724	18,800	239,000	320,000	2,860,000	295,473	116,613	1,200,000	10,441	840,000	86,395	0	396,000	
Recycled (**)	78,200					1,196,000		71,054			4,508		30,949		
Incinerated with energy recovery (**)	1,300					78,000		8,258			1,813		0		
Incinerated (**)	0					71,000		61,266			1,506		22,241		
Landfill (**)	35,000					15,000		3,502			24,745		0		
Other (**)	0					48,000		822			59,734		0		
Comments	1)	2)	3)	4)	5)			6)	7)	8)	9)		10)		11)

**Table 3.2.** Treatment and handling of hazardous waste (Questionnaire, Paragraph II, Question 4).

Notes:


\*) Within the Member State.

\*\*\*) Outside the Member State.

- (1) Other recovery: physico-chemical treatment plants for organic and inorganic waste
- (2) Otherwise physico-chemically treated waste
- (3) Only from primary sources
- (4) The quantity of contaminated soil and stones is not included.(within).The figures refer to exported amounts of wastes listed in Annexes III and IV of Council Regulation 259/93. All of these wastes are not necessarily considered as hazardous wastes.(outside).
- (5) Other treatments are physico-chemical (within)
- (6) The total accounts for approximately 97% of the actual
- (7) All the other modes of disposal apply chemical, physical and biological processes (within)
- (8) Luxembourg: Other mode of treatment = physico-chemical treatment (within)
- (9) Other treatment: physico-chemical processing
- (10) Estimates for revision of the National Hazardous Waste Plan. Total arising: 3.293.705 (within)
- (11) Estimate. Breakdown not available

Other waste	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Lux.bourg	Nether Lands	Portugal	Spain	Sweden	UK
Year	1999	1999	2000	1999			2000	1998	1998	2000	2000	2000			
Total(tonnes/year )	44,550,000	22,018,500	9,946,000	21,244,000			13,255,000	76,360,965	52,890,000	6,344,000	49,117,000	11,524,147			
Recycled	29,600,000	11,219,400	7,545,000	8,186,000			1,500,000	1,314,298	21,440,000	1,900,000	41,158,000	3,926,759			
Incinerated with energy recovery	4,550,000	0	1,260,000	4,564,000			0	0	930,000	0	3273000	744,313			
Incinerated	0	782,200	0	8,000			0	0	320,000	0	0	16,839			
Landfill	8,000,000	3,239,400	1,128,000	4,972,000			0	2,093,454	22,000,000	4,444,000	3,531,000	3,257,577			
Other	2,400,000	6,777,500	13,000	3,514,000			11,755,000	3,498,083	8,200,000	0	1,155,000	3,578,659			
Comments		1)	2)	3)			4)	5)	6)	7)	8)				9)

**Table 3.3.** Treatment and handling of other waste. It differs from one Member State to another as to which types of waste this category comprises but it could include solid municipal waste, municipal sewage waste, industrial waste, energy and water supply, mining waste, agricultural waste, construction waste. (Questionnaire, Paragraph II, Question 4).

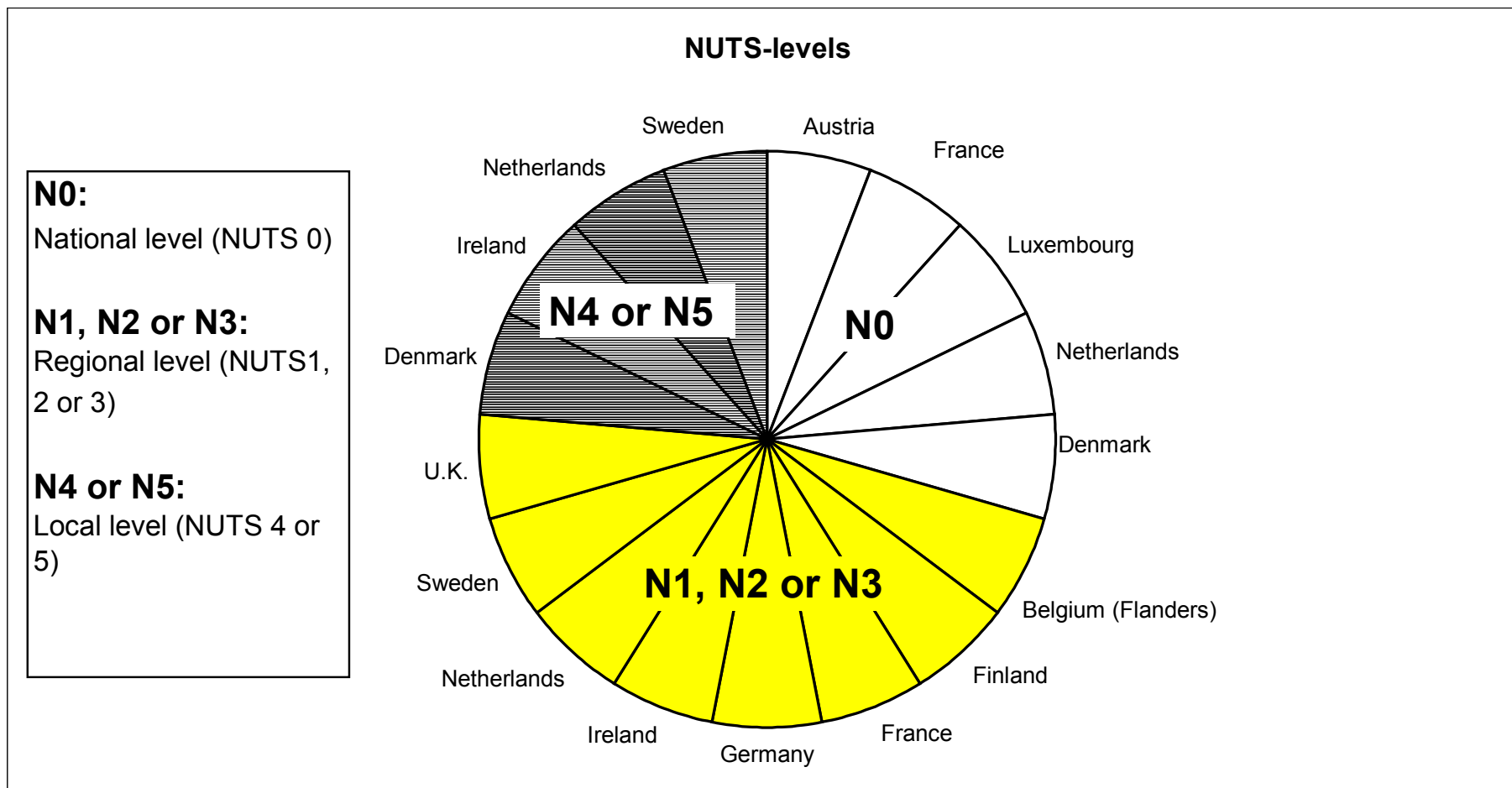
 Data not received

Note:

- (1) The figures present the sum of two reported fractions:
- (2) Non- hazardous industrial waste (otherwise conditioned waste): 21,675,000 t (98% of total): recycled 51%, inc. 4%, landfilled 15% and other 30%
- (3) Hazardous industrial waste: 343,500 t (2% of total): recycled 51%, inc. 4%, landfilled 15% and other 30%
- (4) The figures present the sum of four reported fractions:
- (5) Construction and demolition: 3,223,000 t (32% of total): recycled 90%, inc. w. energy rec. 2% and landfilled 8%
- (6) Industrial: 2,947,000 t (30% of total): recycled 64%, inc. w. energy rec. 15% and landfilled 21%
- (7) Commerce and service: 1,120,000 t (11% of total): recycled 40%, inc. w. energy rec. 46% and landfilled 14%
- (8) Waste from energy production: 1,176,000 t (12% of total): recycled 100%
- (9) Other waste: 1,480,000 t (15% of total): recycled 77%, inc. w. energy rec. 17% and landfilled 6%
- (10) The figures present the sum of three reported fractions:
- (11) Construction and demolition: 1200000 t (6% of total): All treated under the category "other"
- (12) Industrial: 19123000 t (90% of total): recycled 40%, inc. w. energy rec. 24%, incinerated <1%, landfilled 24% and other 12%
- (13) Waste from energy production: 921000 (4% of total): recycled 61%, inc. w. energy rec. 1%, incinerated <1%, landfilled 34% and other 4%
- (14) Industrial (manufacturing) waste. The remaining quantity of non-hazardous industrial waste (11755000 tonnes) is disposed of or put to re-use by the producers themselves. Year not stated.
- (15) Total includes only non-hazardous waste arisings (industrial)
- (16) Construction and demolition: 2704958 t (3% of total): recycled 43% and landfilled 57%
- (17) Industrial: 4876406 (6% of total): treatment method is not specified
- (18) Commerce and service: 689234 t (1% of total): recycled 19% and landfilled 81%
- (19) Agriculture and forestry: 64578724 (85% of total): treatment method is not specified



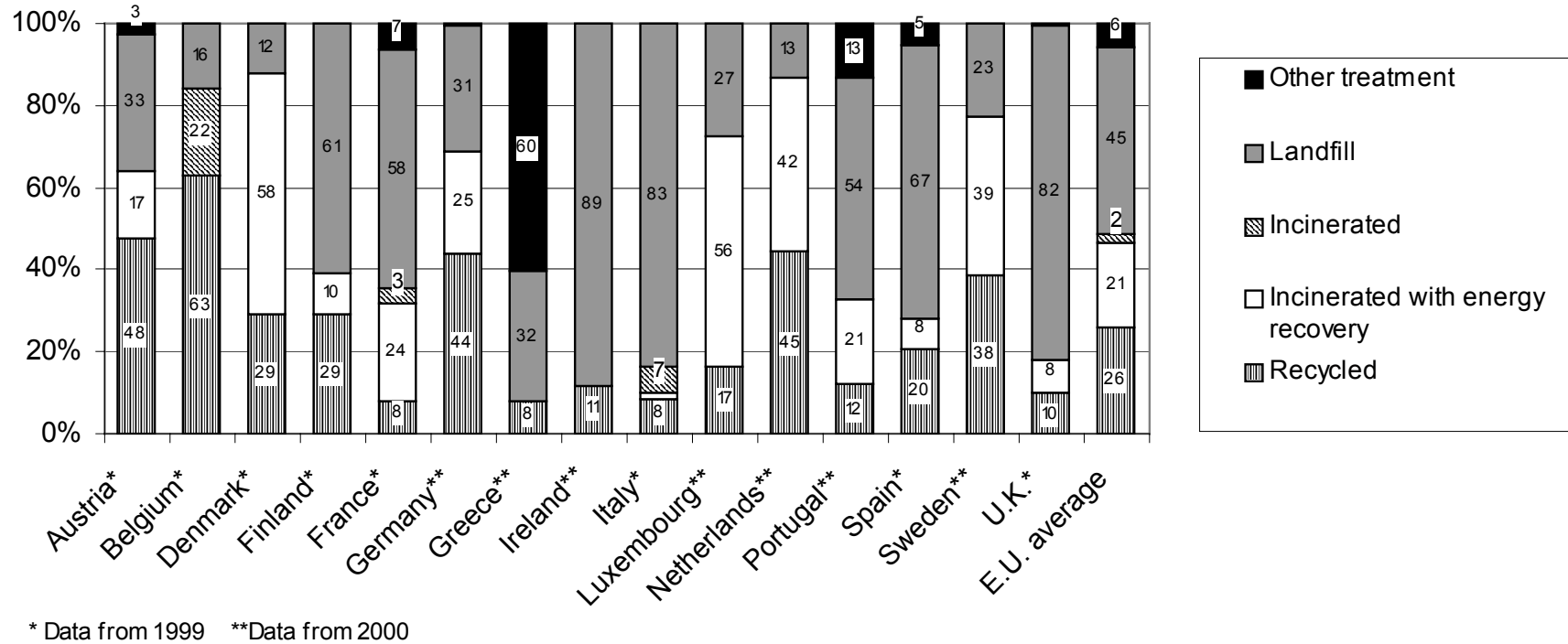
- (20) Mining and quarrying: 3511643 (5% of total): recycled <1% and 100%
- (21) Recovered material and compost is included in the recycled products; (the waste fraction refers to non-hazardous waste from commerce, industry and craft trades).
- (22) Demolition waste. Mostly soil from excavation put to landfill.
- (23) The figures present the sum of three reported fractions:
- (24) Construction and demolition: 19,050,000 t (39% of total): recycled 94%, inc. w. energy rec. 1% and landfilled 5%
- (25) Industrial(manufacturing) waste: 20,225,000 t (41% of total): recycled 82%, inc. w. energy rec. 6%, landfilled 6% and other 6% ( Other treatment: discharged after treatment)
- (26) Other waste: 9,842,000 t (20% of total): recycled 68%, inc. w. energy rec. 18% and landfilled 14%
- (26) Estimated 239,700,000 t/yr total. Breakdown not available



**Figure 1.** Authority level of the implementation of Waste Management Plans (Article 7(1)).

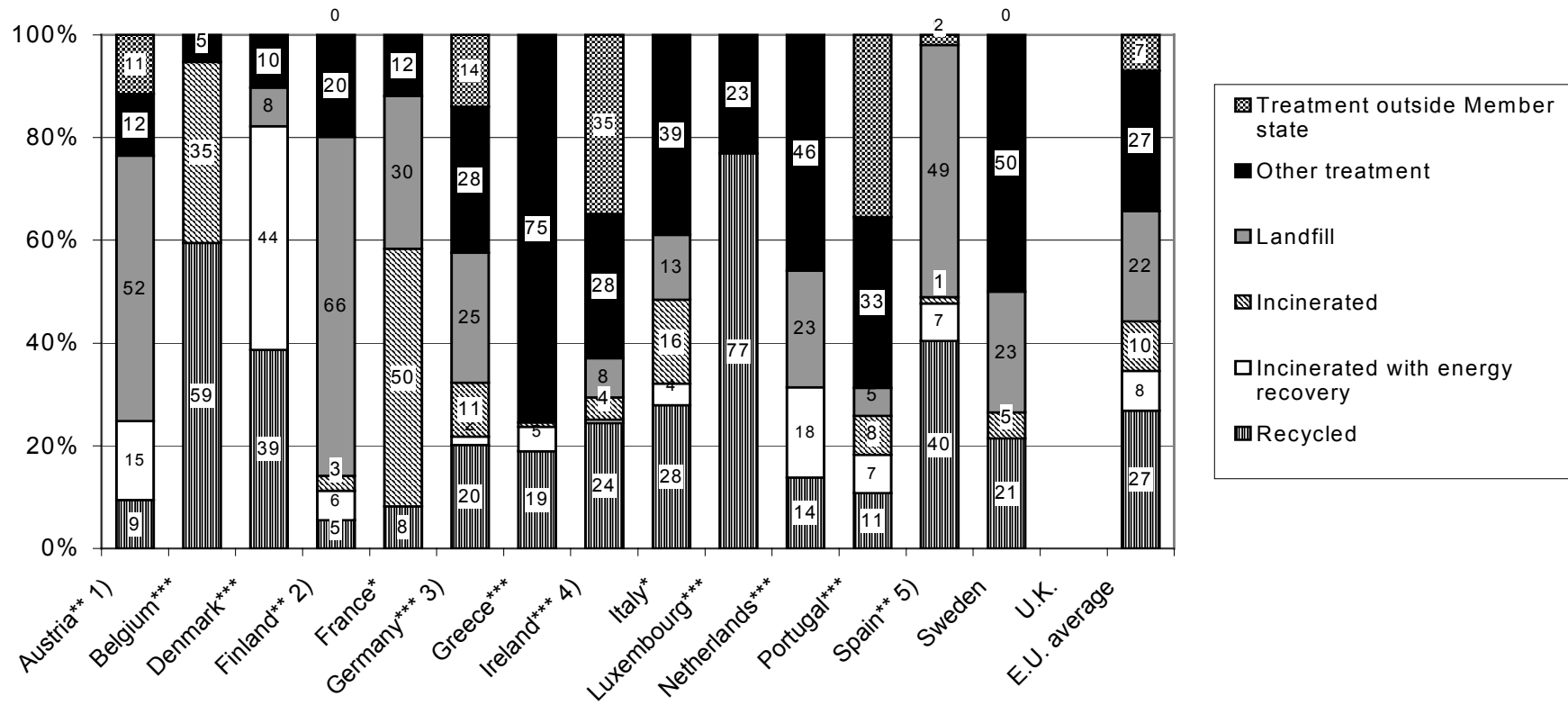
Note: NUTS stands for *Nomenclature des Unités Territoriales Statistiques* (Nomenclature of territorial units for statistics, by Eurostat)

### Council Directive 75/442 on waste, Domestic waste 1999-2000



**Figure 2.** Percentage of treatment and disposal types for **domestic waste** (source: Table 3.1)

### Council Directive 75/442 on waste, Hazardous waste 1998-2000

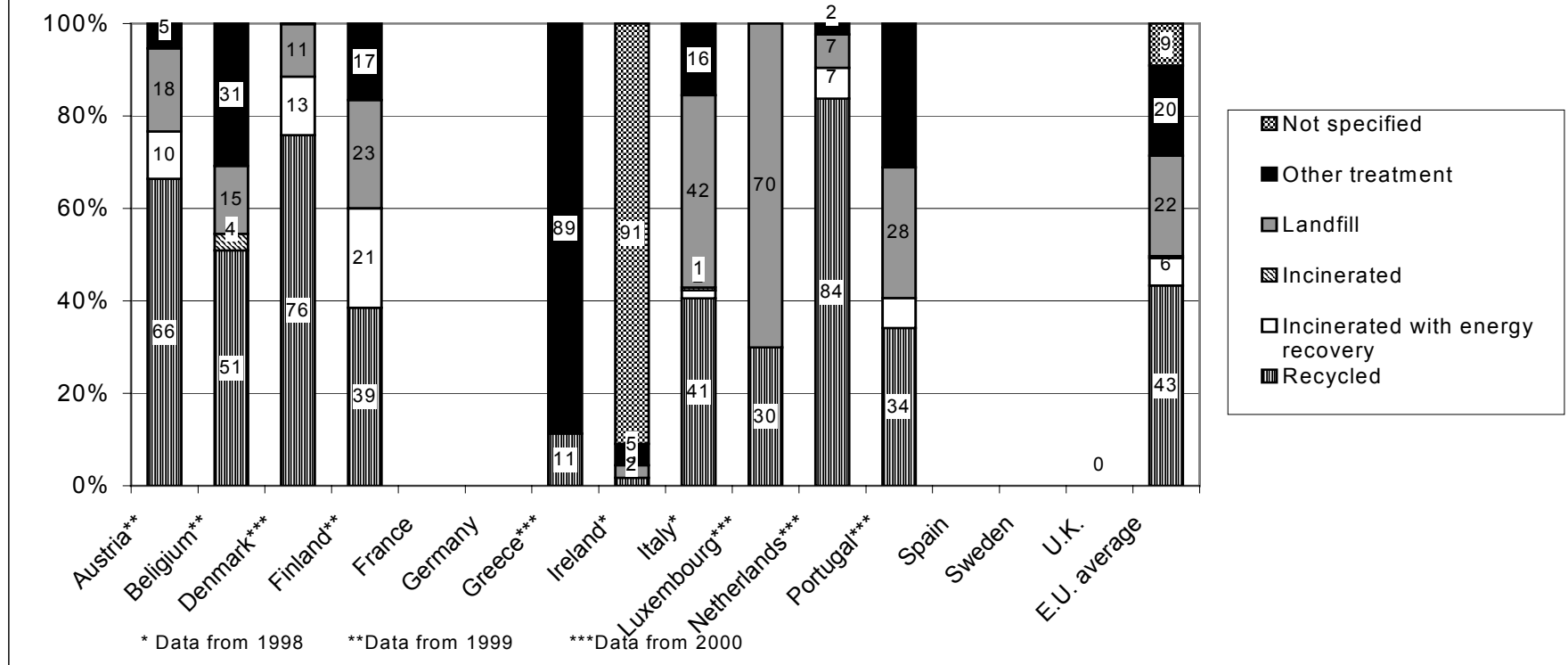


\* Data from 1998; \*\* Data from 1999; \*\*\*Data from 2000

- 1) From the exported fraction: Recycled 68%, Incinerated 1%, Landfilled 31 %
- 2) From the exported fraction: Recycled 100%
- 3) From the exported fraction: Recycled 85%, Incinerated 6%, Incinerated with Energy rec. 5%, Landfilled 1 %, Other 3%
- 4) From the exported fraction: Recycled 46%, Incinerated 8%, Incinerated with Energy rec. 41%, Landfilled 1 %, Other 4%
- 5) From the exported fraction: Recycled 58%, Incinerated with Energy rec. 42%

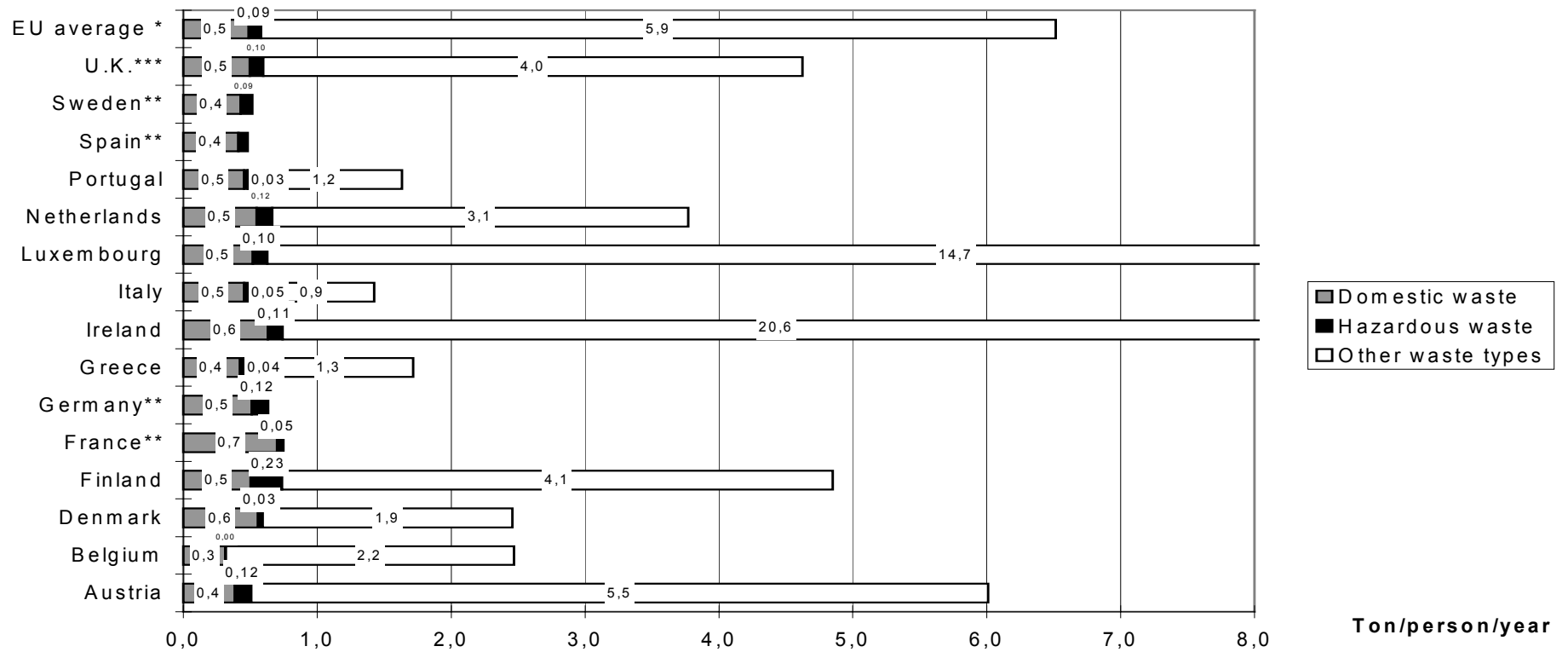
**Figure 3.** Percentage of treatment and disposal types for **hazardous waste** (source: Table 3.2)

**Council Directive 75/442 on waste, Other waste  
1998-2000**



**Figure 4.** Percentage of treatment and disposal types for **other waste** (source: Table 3.3)

**Council Directive 75/442, on waste  
Waste production per person per year (1998-2000)**



The calculations are based on population figures reported by United Nations, World Urbanization Prospects: the 1999 Revision. Population figures from 1999 is used o since population data for 2000 were unavailable.

\* Average for hazardous waste is excl. Se and other waste is excl. De, Fr, Gr, Es & Se.

\*\* No reported data on other waste

\*\*\* Data on hazardous waste & other waste are estimates

**Figure 5. Waste production** per person per year for all types of waste (source: Tables 3)

# DIRECTIVE 91/689/EEC ON HAZARDOUS WASTE

## 1. INTRODUCTION

In addition to Directive 75/442/EEC<sup>76</sup>, which constitutes the legal framework for all wastes, Directive 91/689/EEC<sup>77</sup> contains stricter management and monitoring instruments for hazardous waste. Directive 91/689/EEC replaced Directive 78/319/EEC on toxic and hazardous waste.

The main provisions of Directive 91/689/EEC to ensure environmentally sound management of hazardous waste are:

- definition of hazardous waste (Article 1), further developed by the list of hazardous waste established by Council Decision 94/904/EC<sup>78</sup>, replaced by Commission Decision 2000/532/EC<sup>79</sup> as amended.
- the prohibition to mix hazardous waste with other hazardous or non-hazardous waste (Article 2)
- specific permit requirements for establishments and undertakings dealing with hazardous waste (Article 3)
- periodic inspections and requirement to keep records for the producer of hazardous waste (Article 4)
- appropriate packaging and labelling of hazardous waste during collection, transport and temporary storage (Article 5)
- waste management plans for hazardous waste (Article 6)

Domestic hazardous waste is excluded from the provisions of this Directive.

The following report is based on a questionnaire adopted by Commission Decision 97/622/EC<sup>80</sup> of 27 May 1997.

In addition to the first part of the questionnaire (INCORPORATION INTO NATIONAL LAW) this report contains an evaluation of the implementation of the definition of hazardous waste and the hazardous waste list for all 15 Member States.

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<sup>76</sup> See report on Directive 75/442/EEC on waste

<sup>77</sup> OJ L 377, 31.12.1991, p. 20

<sup>78</sup> OJ L 356, 31.12.1994, p. 14

<sup>79</sup> OJ L 226, 06.09.2000, p. 3.

<sup>80</sup> OJ L 256, 19.09.1997, p. 13

## 2. INCORPORATION INTO NATIONAL LAW

### 2.1. National law

All Member States confirmed that they have provided the Commission with details of the current laws and regulations in force to incorporate Directive 91/689/EEC on hazardous waste and Council Decision 94/904/EC establishing a list of hazardous waste into national legislation.

### 2.2. Definition of “hazardous waste” and the Hazardous Waste List

Article 1(4) of Council Directive 91/689/EEC defines hazardous waste by referring to the List of Hazardous Waste adopted by Council Decision 94/904/EC and replaced by Commission Decision 2000/532/EC as amended. Hence, the Commission considers that the transposition of the Waste List is essential in the implementation by Member States of the hazardous waste definition. It is also considered necessary to have transposed Annexes I, II and III to Council Directive 91/689/EEC.

Two further aspects should be taken into account when assessing the compliance of national legislation with the Community definition of hazardous waste. First, the fact that Member States have taken more stringent measures, i.e. they have included wastes, which have the properties of Annex III and are therefore considered by them to be hazardous. The possibility of introducing new hazardous entries to the waste list is foreseen in Article 1(4), second subparagraph of the Directive, provided they are notified to the Commission, and is in line with Article 176 EC Treaty. (See section 3.1 of this report.) The second aspect concerns the fact that hazardous household waste is excluded from the application of the provisions of the Directive. This does not mean, however, that household waste might not be hazardous. (See section 3.2 of this report.)

The previous implementation report 1995-1997 noted that only four Member States, namely **Finland**,<sup>81</sup> **Greece**,<sup>82</sup> **Luxembourg**<sup>83</sup> and **Spain**,<sup>84</sup> had transposed correctly all the relevant elements of the hazardous waste definition. Since that report, the situation has improved, but there are still a few Member States that have not fully transposed all the elements of the hazardous waste definition.

**Austria** had not transposed the relevant annexes on hazardous waste nor the Hazardous Waste List. Austrian legislation provided that “dangerous substances are wastes, the treatment of which requires specific prudence and particular measures in view of the public interest, and the normal treatment of which requires supplementary measures or greater prudence than those required for the treatment of domestic waste”.<sup>85</sup> The Commission decided to refer Austria to the Court in December 2000. Austria has now

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<sup>81</sup> Waste Act 1072/1993. Waste Decree 1390/1993. Ministry of the Environment Decision 867/1996 on the list of most common wastes and of hazardous wastes.

<sup>82</sup> Decision 19396/1546 on Measures and Conditions for the Management of Hazardous Waste, of 18 July 1997.

<sup>83</sup> Law on the Prevention and Management of Waste, of 17 June 1994. Regulation on Hazardous Waste, of 11 December 1996.

<sup>84</sup> Law 10/1998 on Waste, of 21 April, Royal Decree 952/1997 modifying Regulation on the implementation of Law 20/1986 of 14 May on Toxic and Hazardous Waste (adopted by Royal Decree 833/1988, of July 20).

<sup>85</sup> Article 2.5, Waste Management Law of 6 June 1990.



transposed the relevant annexes on hazardous waste through the Waste Management Act 2002. Also the hazardous waste definition has changed. These issues have therefore been withdrawn from the proceedings that are currently going on before the Court<sup>86</sup>.

**Belgium, Denmark<sup>87</sup>, France<sup>88</sup>, Germany<sup>89</sup>, Ireland, Italy, the Netherlands<sup>90</sup>, Portugal<sup>91</sup> and Sweden<sup>92</sup>** have transposed into their national legislation all the elements of the hazardous waste definition. However, for France the transposition of the test methods is still under scrutiny. In addition, it is important to note that French legislation departs from Community terminology (“hazardous waste”) by referring to “special industrial waste”. This is also the case for German legislation, which refers to “wastes for special supervision”.

**The United Kingdom’s** legislation complies only partially with the definition of hazardous waste, as it excludes certain types of waste covered by the Directive. The Commission decided to refer the United Kingdom to the Court in December 2001.

### **3. IMPLEMENTATION OF THE DIRECTIVE**

#### **3.1. National consideration of “hazardous waste” – Article 1(4)**

*According to Article 1(4) second indent hazardous waste means in addition to the hazardous waste list any other waste considered by a Member State to display any of the properties listed in Annex III such as flammable, corrosive, oxidising, harmful etc. These cases shall be notified to the Commission.*

The Walloon region of **Belgium**, as well as **Austria, Finland, Germany, Luxembourg, the Netherlands and the UK** notified some more wastes as hazardous waste.

The Brussels region of **Belgium**, as well as **France, Greece, Ireland, Italy, Portugal and Spain** did not identify other wastes as hazardous waste.

No information was provided by **Denmark** and **Sweden**.

- These notifications were reviewed by the Commission, assisted in this task by the Committee established by Article 18 of Directive 75/442/EEC, in the context of the adaptation of the European list of hazardous waste. By Commission Decision 2000/532/EC<sup>93</sup> a single Community list of waste was established, integrating the list

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<sup>86</sup> Case C-194/01

<sup>87</sup> Statutory Order from the Ministry of the Environment No. 299 of 30 April 1997 on Waste.

<sup>88</sup> Law No. 75-633 on the elimination of waste and the recuperation of materials, of 15 July 1975 (as amended by Law No.92-646, of July 13, 1992). Decree No. 97-517 on the classification of hazardous waste, of 15 May 1997.

<sup>89</sup> Waste Avoidance, Recycling and Disposal Act, of 27 September 1994. Ordinance on the determination of waste for special supervision, 10 September 1996.

<sup>90</sup> Decree on the classification of hazardous waste and waste oils, of 8 December 1997.

<sup>91</sup> Decree-Law 239/97 of 9 September 1997. Regulation No. 818/97 of 5 September 1997.

<sup>92</sup> Ordinance on Hazardous Waste (SFS 1996:971) of 26 September 1996.

<sup>93</sup> OJ No L 226, 06.09.2000, p. 3.

of hazardous waste. Decision 2000/532/EC was further amended by Commission Decisions 2001/118/EC<sup>94</sup> and 2001/119/EC<sup>95</sup> and Council Decision 2001/573/EC<sup>96</sup>

### 3.2. Hazardous waste generated in households – Article 1(5)

According to Article 1 (5) hazardous waste generated in households is exempted from the provisions of this Directive. The questionnaire asks whether the Member State distinguishes domestic hazardous waste from non-domestic hazardous waste<sup>97</sup>.

As regards **Belgium**, the Brussels region provides for separate collection of hazardous household waste. In the Flemish region such measures are included in the Flemish regulations on the prevention and management of waste (Vlarea).

The **Austrian** waste management act<sup>98</sup> law classifies hazardous waste from households, as well as from other producers and comparable to private households, as problematic substances. Local authorities have to collect these wastes separately at least twice a year.

**Finland** states that hazardous waste from households is exempted from the requirement of the Finnish waste legislation to keep records on hazardous waste generated. For other derogations, reference is made to the report for the period 1995-1997. According to that information municipalities shall organise the recovery and disposal of hazardous waste from households. The provisions on packaging and labelling only apply after having delivered the hazardous waste to municipalities.

In all Länder of **Germany**, domestic hazardous waste is generally collected separately by public-law bodies, using mobile or stationary collection systems. The legislation specifies the following: domestic hazardous waste is exempt from the provisions of the Ordinance on Waste Recovery and Disposal Records; the Ordinance on Environmentally Compatible Storage of Waste from Human Settlements prohibits the storage of domestic hazardous waste at domestic refuse disposal facilities; the Hazardous Waste Technical Guidelines apply.

In **Ireland** there is currently no separate collection from households of the hazardous components of domestic waste. "Bring" facilities provide for the acceptance of certain domestic hazardous wastes, while some local authorities operate a "Chemcar" system (specially equipped vehicle) for such waste.

**Italy** refers to its national legislation defining hazardous waste and establishing a list of hazardous waste. Article 7(4) of Decree No 22/1997 defines "non-domestic waste specified in the list referred to in Annex D..." as hazardous waste. It also refers to measures taken to comply with Decision 2000/532/EC, as modified by Decision 2001/118/EC, which extended the list of hazardous waste and incorporated the classification method.

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<sup>94</sup> OJ L 47, 16.2.2001, p. 1

<sup>95</sup> OJ L 47, 16.2.2001, p. 32

<sup>96</sup> OJ No L 203, 28.07.2001, p. 18.

<sup>97</sup> As the questionnaire does not specifically ask for more detailed information, some of the replies to this question are not clear in stating what rules apply to hazardous household waste.

<sup>98</sup> Abfallwirtschaftsgesetz - AWG - BGBl. N° 325/1998.

**Luxembourg** refers to information provided in its report for the period 1995-1997. According to that information hazardous waste generated in households are listed in Chapter 20 of annex IV of the Regulation on Hazardous Waste of 11 December 1996. No further information is given on the rules applicable to this waste.

In **the Netherlands** domestic waste is not as such regarded as hazardous waste. However, householders are encouraged to sort their waste, and wastes appearing on the list of small chemical waste are collected separately. Most of the wastes appearing on the list of small chemical waste are hazardous waste. Once these wastes have been collected from households they are managed as hazardous waste.

**Portugal** has adopted an action plan on solid urban waste providing for removal, selective collection and relevant treatment of various wastes considered hazardous or potentially hazardous. The action plan attaches particular importance to selective collection of batteries, mercury discharge lamps and mercury thermometers. Specific measures for mercury have also been approved.

**Spain** reported that such measures have been adopted, without providing any further details.

In **Sweden** the Ordinance on Hazardous Waste is not applicable when hazardous waste forms part of the domestic waste. Each municipality has the power to decide that hazardous waste from households shall be collected separately from other household waste. Such separately collected fractions are hazardous waste.

The Walloon region of **Belgium**, as well as **Denmark, France, Greece** and the **UK** reported that no such measures have been adopted, without providing any further explanations.

- The number of countries that have established separate collection systems for hazardous household waste has increased since the previous report for the period 1995-1997.

### **3.3. Records and identification of the discharge of hazardous waste – Article 2(1)**

*According to Article 2 (1) on every site where discharge of hazardous waste takes place waste has to be recorded and identified.*

In **Austria**<sup>99</sup> records must be kept, separately for each calendar year, of the type, quantity, origin and whereabouts of such wastes. The records must be kept for at least seven years from the date of the last entry and presented to the authorities on request. The records of hazardous waste shall take the form of a continuous collection of identification forms.

As regards **Belgium** the Walloon region confirms that the necessary measures to implement Article 2(1) are in place. The Flemish region also confirms that such measures have been taken and refers back to information provided in the previous report for the period 1995-1997. According to that information Article 5.2.1.2 of Vlarem II requires

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<sup>99</sup> Idem, § 12(1)

operators of installations for the treatment of waste to register the intake and treatment of wastes and that waste can only be accepted in a landfill when origin, characteristics, content and leaching behaviour are known. In the Brussels region no such discharge is taking place.

In **Denmark** undertakings treating hazardous waste shall keep records of the waste type (waste catalogue code)<sup>100</sup>.

**Finland** refers to information provided back in the 1995-1997 report. It points out that, according to new legislation<sup>101</sup>, the waste permit has been replaced by the environmental permit. In addition, the following measures are taken to ensure that tipping sites of hazardous wastes be identified and recorded: all producers of hazardous wastes (except households) and transporters of hazardous wastes on a commercial basis, as well as dealers and brokers in waste, if the waste is intended for recovery or disposal outside Finnish territory, shall keep record of waste (Waste Act, Section 51, paragraph 3). The Government decision on landfills (861/1997) requires several measures to be taken to ensure that there is sufficient information on the waste deposited on landfill and that the properties of waste correspond to the information given on waste (e.g. Sections 6 and 7). The transport of hazardous waste is under specific control, in accordance with the Government Decision on information to be provided on hazardous waste and on the packaging and labelling of hazardous waste (659/1996). The holder of the hazardous waste shall ensure that a specific identification form accompanies the waste during the movement and that it is handed over to the waste consignee at the end of the movement. The consignee shall certify reception of the waste and the amount by signing and dating the document. The holder and the consignee of the hazardous waste shall retain the identification form they have signed or a copy thereof for three years following the signing.

In **France** the prefectural order that allows discharge of hazardous waste lists both the accepted types of waste and their quantities, prescribes control of the waste (procedure of acceptance beforehand, control at the arrival on site) as well as keeping of an acceptance and refuse register for the waste.

In **Germany** registration and identification requirements for the storage of hazardous waste are set out in the Ordinance on Waste Recovery and Disposal Records. In addition, the Waste Technical Guidelines require the operators of waste disposal facilities to keep a company log book, which must contain all relevant data, including the record of the waste accepted.

**Greece** reported that a register of industries producing hazardous waste has been compiled. It indicates, *inter alia*, the waste production source, the characterisation of waste and the quantity produced, and the method of management and final disposal of the waste.

**Ireland** confirmed again that the necessary measures for the implementation of Article 2 (1) are in place<sup>102</sup>.

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<sup>100</sup> Order no 619 of 27th June 2000 on Waste.

<sup>101</sup> Environmental Protection Act 86/2000.

<sup>102</sup> Section 41(2)(ix) of the Waste Management Act, 1996.

In **Italy** national legislation<sup>103</sup> establishes that hazardous waste may be disposed of in landfill only if accompanied by an identification form. On that basis the landfill manager checks that: (a) on the basis of the characteristics indicated in the identification form, the waste may be disposed of in landfill; (b) the characteristics of the waste delivered correspond to those recorded in the identification form.

**Luxembourg** confirms again that Article 2 (1) was implemented by Article 3 of the Regulation on Hazardous Waste of 11 December 1996, without any further details.

In **the Netherlands** Article 10.32 of the Environmental Management Act (Wet milieubeheer) lays down the obligation for any party transferring hazardous waste to provide the party receiving that waste with a description of its nature, properties and composition. Article 10.33 of the Environmental Management Act requires the party receiving waste (including landfill sites) to notify the competent authority when it takes delivery of waste. These notifications must be registered. The manner in which registration takes place is specified in the acceptance and registration provisions of the permit.

**Portugal** confirms that it has taken the necessary measures and refers to provisions of national legislation on record keeping for waste. It specifies that the single discharge for hazardous industrial waste existing in Portugal has specific regulations on identifying and recording the waste for disposal.

**Spain** refers to national provisions<sup>104</sup> requiring record-keeping and the presentation of an annual report on activities.

**Sweden** states again that these requirements are dealt with in connection with the procedure of issuing permits for the landfilling activity.

The **United Kingdom** confirms that relevant measures are in place in England, Scotland & Wales and Northern Ireland, without providing further details, but not in Gibraltar.

- For this report all Member States have replied to this question and all Member States state that the requirements of Article 2(1) are met.

#### **3.4. Mixing of hazardous waste – Article 2(2) –(4)**

*According to Article 2(2) to (4) establishment and undertaking which dispose of, recover, collect or transport hazardous waste shall not mix different hazardous waste and hazardous waste with non hazardous waste. Exemptions may only be permitted where the conditions laid down in Article 4 of Directive 75/442/EEC are complied with and in particular for the purpose of improving safety during disposal or recovery. Already mixed waste has to be separated where technically and economically feasible and necessary for safety reasons (human health and environment).*

In **Austria** national legislation<sup>105</sup> prohibits, under specific circumstances, the mixing of waste with other wastes or materials or of waste with waste oils. The joint treatment of

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<sup>103</sup> Ministerial Decree No 141 of 11 March 1998

<sup>104</sup> Royal Decree 833/1988

<sup>105</sup> §17(1a) of the Abfallwirtschaftsgesetz

different wastes or of wastes and materials in an establishment shall not be deemed to constitute mixing within the meaning of this provision where such treatment is permitted for each individual waste. The joint collection of different types of waste or of wastes of the same type with different levels of contaminant content is permitted where no chemical reaction occurs between the wastes and the joint use or handling (including recovery) thereof is permitted according to the stated criteria. With the new Waste Management Act of 2002 the obligation to separate waste already mixed waste is transposed into national legislation.

As regards **Belgium** all 3 regions refer to legislation transposing the requirements of Articles 2(2)-(4).

**Denmark** refers, as in the previous 1995-1997 report, to a letter of 18/7/96 to the Commission,<sup>106</sup> without providing any further explanations.

**Finland** refers to information provided in its previous report for 1995-1997 where it was specified under which conditions the mixing of hazardous wastes with one another or with other wastes or substances is allowed. According to that information mixing of hazardous waste is only allowed, when it is necessary for waste recovery or disposal and when it does not cause safety problems.

**France** reported again that special industrial waste (listed in the decree of 15 May 1997) cannot be disposed of together with other waste categories. Special industrial wastes and hazardous wastes are not accepted on landfills for municipal waste. Industrial waste cannot be burned in an incineration plant for municipal waste. In the case of incineration of municipal waste together with special industrial waste the stricter requirements apply.

**Germany** stated that relevant rules are set out in § 5 para. 2, sentence 4, and § 11 para. 2 of the Closed Substance Cycle Waste Management Act (KrW-/AbfG), as well as in the Waste Oils Regulation, the PCB Waste Regulation and the Solvents Regulation.

**Greece** indicated that it has no treatment or disposal centres for hazardous waste at the national level. This information is not sufficient to assess whether the mixing ban is correctly transposed into national legislation.

In **Ireland** the Waste Management (Licensing) Regulations of 2000 provide for the Environment Protection Agency to attach to any waste license that it may grant such conditions that are necessary to give effect to the provision of Articles 2(2)-(4). A similar requirement for local authorities is included in the Waste Management (Permit) Regulations of 1998. The Waste Management (Hazardous Waste) Regulations of 1998 allow for appropriate labelling by the producer of such waste during temporary storage and prohibit mixing of hazardous waste with one another or with non-hazardous waste unless explicitly approved. Similar non-mixing requirements apply for the transfer of hazardous waste.

**Italy** refers to national legislation<sup>107</sup> which prohibits the mixing of the different categories of hazardous waste or the mixing of hazardous waste with non-hazardous

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<sup>106</sup> That letter confirmed that this Article has been transposed by § 53 of bekendtgørelse no 581 of 24 June 1996.

<sup>107</sup> Article 9(1) of Leg. Dec. 22/1997

waste, unless a regional authorisation allows such mixing provided that this does not endanger human health and is not harmful to the environment. Consequently, mixing hazardous wastes belonging to the same category among the forty referred to in Annex 1 to Directive 92/689/EEC is permitted, as is the mixing of non-hazardous wastes among themselves.

**Luxembourg** refers again to the relevant provisions of the Regulation on Hazardous Waste of 11 December 1996. The mixing of waste was generally prohibited by Article 7 paragraph 4 of the Law on Prevention and Management of Waste. More detailed requirements are laid down in the Regulation on Hazardous Waste. The mixing of hazardous waste for safety reasons requires a permit of the Ministry of the Environment.

The **Netherlands** states again these requirements are included in Article 2, second, third and fourth indent of the Decree on separation and keeping separate hazardous waste (Official Journal 1998, 72) sent to the Commission by letter of 15 September 1998.

**Portugal** confirms that the necessary measures are in place, primarily through specific legislation on waste streams which requires separate management of such wastes. The necessary measures to avoid mixing different categories of waste are taken at the collection and transport stages. The producer, holder or transporter of hazardous waste is required to treat the waste separately. Specific rules are in force for hospital hazardous waste.

**Spain** states that Article 12(2) of Law 10/98 on waste, as duly notified to the Commission, prohibits mixing waste under the circumstances provided for in Article 2(2) to (4) and, depending on the consequences, classifies mixing as a serious or very serious infringement (Article 34 of the Law). Under Article 4(2) of the same Law the relevant regional authorities are responsible for supervision, inspection and sanctions.

In **Sweden** states again that these requirements are included in the Swedish Ordinance on Hazardous Waste (SFS 1996:971).

**UK** reported that for England, Scotland & Wales the requirements of articles 2(2) to 2(3) are already reflected in existing regulations, while Article 2(4) is to be reflected when revised regulations are implemented in 2002. The requirements of Articles 2(3) to 2(4) are partly met in Northern Ireland and Gibraltar.

- The prohibition of mixing hazardous waste seems to have been correctly transposed in almost all Member States. However, the derogations often deviate from the conditions stated in Article 2(3) under which it is permissible to derogate from the ban, which are that the mixing is in accordance with Article 4 of Directive 75/442/EEC and that it is done with the purpose of improving the safety of the disposal or recovery.

### 3.5. General national rules replacing permit requirements for recovery operations – Article 3(2)

*According to Article 3(2) establishment and undertaking, which recover hazardous waste may be exempted from the permit requirement when the Member State adopts certain specific rules and when the protection of human health and the environment is ensured. These establishments and undertakings have to be registered with the competent authorities.*

The **UK** has adopted rules to enable exemptions. It reported 7 extant exemptions in England, Scotland & Wales which have been provided under Article 11 of Directive 75/442/EEC. Most of the exemptions were made before 27 June 1995 when the hazardous Waste Directive had to be implemented but they were notified to the Commission under Article 11(3) of Directive 75/442/EEC. However, there are still problems with Northern Ireland.

**Italy** notified rules to enable exemptions for certain hazardous wastes pursuant to Article 3(2), which were agreed by Commission Decision 2002/909/EC<sup>108</sup>

### 3.6. Inspections of the producers of hazardous waste – Article 4(1)

*According to Article 4 (1) periodic inspections are required in addition to establishment and undertaking for the producer of hazardous waste.*

**Austria** reported again that waste producers who produce hazardous waste repeatedly and at least once a year must be registered with the competent authorities. All transfers of hazardous wastes are recorded in a federal register and such data are regularly checked. Where appropriate, an on-the-spot inspection is made. Waste producers are also monitored by means of spot checks (suspicious notifications, by sector, irregularities).

As regards **Belgium**, the Walloon region reported again that the producers of hazardous waste are inspected in the context of a general control on the implementation of environmental legislation for classified establishments, usually once a year. In the Flemish and Brussels regions these establishments are inspected periodically, the frequency of these inspections depending on the priority given to the dossier in question.

**Denmark** stated again that the inspections of the producers of hazardous waste are carried out as part of the general municipal inspections.

**Finland** referred back to the report for the period 1995-1997. In addition, the Environmental Protection Act (86/2000) and Decree (169/2000), which entered into force on 1 March 2000, contain provisions concerning inspections. The supervisory authority (i.e. regional environmental centres or local authority) has a right to obtain necessary information from authorities and operators, to move around on another party's land, to make inspections and tests, carry out measurements and take samples, to gain access to places where activities are engaged in, and to monitor the environmental effects of activities. The supervisory authority must carry out inspections of activities, which have been granted a permit as often as is necessary in order to monitor operations.

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<sup>108</sup> OJ L 315, 19.11.2002, p. 16



Inspections are also mandatory in specific situations laid down by legislation and must also be carried out in response to requests by an operator, an interested party, or anyone else, except in cases where an inspection must be considered as manifestly unnecessary. The authorities shall draw up a separate plan for inspection work where this is deemed necessary. A record of the inspection shall also be drawn up.

**France** confirmed again that every delivery of hazardous waste to a disposal installation is controlled, that special installations are inspected at least once a year and that for waste generation and waste disposal declarations are required once to three times a year. This information does not clarify whether periodical inspections are foreseen for producers of hazardous waste.

In **Germany** producers of hazardous waste are subject to monitoring by the competent authority<sup>109</sup>. The frequency of checks is different in the individual Länder, and depends on the "problem situation", i.e. the type of facility and the need for monitoring. It ranges from a maximum of twice a year to a minimum of once every five years.

**Greece** reported that, depending on the types of waste, the competent authorities that grant the hazardous waste preliminary storage permits carry out periodic inspections of the temporary storage sites. The frequency of the inspections varies according to the terms laid down for the storage. This information does not clarify whether periodical inspections are foreseen for producers of hazardous waste.

**Ireland** restated that the frequency of inspections is determined by individual competent authorities having regard to the nature of the facilities and the wastes concerned (Section 15 (1) (b) of the Waste Management Act 1996).

In **Italy** Article 20(1)(c) of Legislative Decree 22/1997 delegates the responsibility for periodic monitoring to the Provinces which may conclude appropriate agreements with public bodies with specific experience and pertinent technical skills. As part of the tasks attributed to them, the Provinces carry out periodic inspections of the undertakings and establishments which dispose of or recover waste. This information does not clarify whether periodical inspections are foreseen for producers of hazardous waste.

**Luxembourg** refers back to the 1995-1997 report. According to that information officials of the police, the customs authorities and the environmental administration monitor infringements of the general waste legislation as well as the legislation on hazardous waste. The controls are carried out regularly but not in a determined frequency. In addition, Luxembourg reports that an ecological management scheme has been put in place and companies are regularly controlled for conformity as regards their waste management. Classified establishments have to draw up a plan on waste prevention and management, controlled by a certified body.

In the **Netherlands** these inspections are carried out by the Enforcement departments of the competent authorities (in general the provinces). The periodicity of these inspections depends on various factors (nature and location of the undertaking, nature of the hazardous materials, risk level, etc.). Thus the periodicity varies between undertakings. In general, an effort is made to inspect every undertaking at least once a year.

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<sup>109</sup> § 40 of the Closed Substance Cycle Waste Management Act (KrW-/AbfG). § 52 of the Federal Immission Control Act (BImSchG)

**Portugal** confirmed the implementation of this requirement through various departments of the Ministry of Environment and Regional Planning. Other bodies are also responsible for inspections, including the police authorities. Inspections are carried out regularly with no set intervals, although, on average, the leading producers of hazardous wastes are inspected once a year.

**Spain** stated that each regional authority is responsible for deciding the appropriate frequency to meet requirements. In any event, inspections must always be carried out before permits are renewed.

**Sweden** restated that, according to the Swedish Environmental Code the authorities responsible for inspections shall carry out plans for inspections on a yearly basis. These authorities shall also keep records over the activities that require inspections and regularly evaluate the results from the inspections.

The **UK** affirmed that inspections take place on a regular basis, without providing any details.

- From the answers given it cannot be concluded that all Member States provide periodical inspections of all generators of hazardous waste.

### 3.7. Records on Waste – Article 4(2)

*According to Article 4(2) producers of hazardous waste have to keep records on the details of hazardous waste (in addition to Article 14 of Directive 75/442/EEC). Further, establishments and undertakings, which transport hazardous waste, have to keep records. On request they have to make this information available to the competent authorities.*

**Belgium** refers to the report of 1995-1997 for the **Flemish Region**. According to that information, Article 23§1 of the Flemish Waste Management Decree requires registration and identification of hazardous wastes. Article 5.2.1.2 of Vlarem requires that operators of waste treatment installations keep a register for incoming and treated wastes. This article also specifies the data that is required for the different wastes. Article 17 of the Waste Management Decree requires producers of industrial wastes to keep a register of the generated wastes. According to the new information submitted for the Flemish Region the standard forms shown in the Ministerial Order of 19 November 1990 containing detailed rules concerning the waste report form to be used for the compulsory annual report have been replaced by the report forms in Article 5.1.5.2 of VLAREA. There seems to be no requirement concerning the transport of hazardous wastes.

For the **Walloon Region** no new information is submitted. According to the information submitted for the previous report all producers or establishments collecting, treating, recovering and disposing hazardous waste have to keep records. There seems to be no requirement concerning the transport of hazardous waste.

No information was received for the **Brussels Region**.

In **Denmark** according to Order no 619 of 27th June 2000 on Waste, section 50 and 53, the enterprises and public and private institutions producing hazardous waste, except for explosive waste, shall report such waste to the local council. The report shall include

information on the classification of the waste (waste catalogue code), the quantity, packaging, composition and type of waste. Furthermore, the enterprises collecting and transporting hazardous waste as part of their business shall maintain a register of the amount and classification of hazardous waste transported (waste catalogue code), the producer of the waste and the delivery site, cf. the Order on Waste, section 14, subsection 1. The information and documentation for the information shall be held for five years, cf. the Order on Waste, section 14, subsection 2. According to section 15 to 17 enterprises treating hazardous waste shall register and report to the Danish Environmental Protection Agency with data on the type, fraction, origin, and quantity of waste, including recyclable materials which are recycled, incinerated for energy production or disposed of. For hazardous waste, the classification of waste should also be reported (waste catalogue code). The notification and reporting are made according to Appendices 7 - 9 of Order no 619 of 27th June 2000 which is enclosed. Reference is also made to letter/note of 18 July 1996 (SG(96) A/012178).

**France** reports that there is no standard form. The register shall, when required retrace the operations carried out in connection with elimination of the waste. In the previous report France had stated that establishments and undertakings carrying out recovery and disposal as well as producers of hazardous waste have to keep records. There doesn't seem to be requirements for the transport of hazardous waste.

In **Germany** the producers of hazardous waste referred to in Article 4(2) are obliged to introduce and keep a logbook pursuant to § 29 of the Ordinance on Waste Recovery and Disposal Records. Logbooks have to be kept for three years after the date of the last entry or the last document. The logbook contains certain completed forms from Annex 1 to the Ordinance on Waste Recovery and Disposal Records, the use of which is compulsory. These are: 1. Record of proper waste management forms and collective record of proper waste management forms: - Cover sheet for records of proper waste management (EN), - Responsible declaration (VE), - Declaration analysis (DA), - Declaration of acceptance (AE), - Official confirmation (BB), 2. Notification report forms: - Cover sheet for notification/application (AA), - Responsible declaration (VE) - (without declaration analysis (DA)), 3. Exemption forms: - Cover sheet for notification/application (AA), - Declaration of acceptance (AE), - Official confirmation (BB), 4. Record of proper waste management forms: - Consignment note, - Hand-over certificate, 5. Simplified record and collective simplified record forms: - Cover sheet for records of proper waste management (EN), - Responsible declaration (VE), - (without declaration analysis (DA)), - Declaration of acceptance (AE).

In the previous report Germany had reported that producers and establishments collecting and transporting hazardous waste were obliged to implement "proving procedures" (Nachweisverfahren). The record keeping obligation seems to apply only to producers who generate more than 2000kg hazardous waste or 2000 tonnes per year. This is not in line with Article 4(2).

In **Spain** Articles 16 and 17 of Royal Decree 833/89, as duly notified to the Commission, impose an obligation to keep records and lay down the content thereof.

In **Greece** the hazardous waste register which the producers and undertakings referred to in Article 4 (2) are required to keep includes, in addition to the dates of production, delivery and reception, information about quantity, chemical composition, pH, physical

and chemical characteristics, origin and the method of packaging, transport and storage. The registers are preserved for at least ten years.

**Ireland** gave no reply to this question. In the previous report Ireland had confirmed the implementation of Article 4(2) without giving any details.

**Italy** reported that its waste legislation contains a number of record keeping and related certification requirements binding on waste disposal and recovery undertakings as well as for producers of hazardous waste (except certain agricultural undertakings) and producers of non-hazardous waste engaged in industrial and craft processes (with the exception of certain small operators)<sup>110</sup>. Record keeping is standardised and subject to periodic certification procedures with the competent authorities.

**Luxembourg** referred to the information provided for the previous report. According to that information the obligation for establishments carrying out collection, transport, recovery and disposal operations for waste and hazardous waste to keep records is laid down in the Law on the Prevention and Management of waste. The same was established for producers of hazardous waste by Article 4,1 of the Regulation on Hazardous Waste of 11 December 1996. Currently a standard form has not been issued.

In the **Netherlands** producers of hazardous wastes must register the nature and composition of the hazardous wastes they transfer. They are also required to provide the party to whom the waste is transferred with information regarding the nature and composition of the waste. There is no standard form for the registration of waste by waste producers or by those to whom the waste is transferred. As a general rule undertakings can keep the records in a form which suits them. However, standard forms are used by waste collectors and receivers to inform the competent authority of the receipt of waste.

In **Austria** § 12(1) of the Waste Management Act obliges anyone who performs an activity which generates wastes or waste oils or who collects or treats wastes (waste oils) to keep continuous records, separately for each calendar year, of the type, quantity, origin and whereabouts of such wastes (waste oils), and provide such information to the authorities on request. The records must be kept for at least seven years from the date of the last entry. Provisions for the implementation of these obligations are set out in the Waste Control Ordinance<sup>111</sup> There is an identification form system for hazardous wastes, under which the holder of hazardous wastes or waste oils must identify in particular the type, quantity, origin and whereabouts of hazardous wastes and waste oils by means of identification forms made out on a standard form and continuous records based on such information.

**Portugal** gave no reply to this question.

**Finland** refers to the report for the period 1995-1997. According to that information holders of waste permits, producers of hazardous waste (households excluded) as well as commercial transporters of hazardous waste shall keep records of the quantity, type, quality and origin of all wastes including the collection, storage, transport, recovery, disposal, delivery place and date (Waste Act, Section 51, paragraph 3). Waste permit

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<sup>110</sup> Decree Law 22/1997.

<sup>111</sup> BGBl No 65/1991

holders shall supply annual summaries of waste records on standard forms to the supervising authorities. When delivering hazardous waste for recovery or disposal an identification form containing detailed information on the waste shall be drawn up and retained for three years.

In addition Finland indicates that the waste permit was replaced by the environmental permit due to the entry into force of the Environmental Protection Act (86/2000) on 1 March 2000. The requirements concerning the use of identification form set out by the Government Decision on information to be provided on hazardous waste and on the packing and labelling of hazardous waste (659/1996) shall not apply to hazardous waste which has been generated by households or comparable activities and is delivered to a municipal or other reception facility, nor to transfrontier shipments of hazardous waste, for which separate provisions exist elsewhere concerning the identification form and procedures to be followed. Record-keeping, as well as annual reporting when required by the permit authorities, is recommended to be made in standard form. These forms have been prepared and distributed to economic operators by the environmental administration.

**Sweden** reports that requirements on keeping records are included in the Swedish Ordinance on Hazardous Waste.

In the **United Kingdom** consignors of hazardous waste and those transporting hazardous waste are required to keep records by virtue of regulation 15 of the SWR and regulation 14 of the SWR NI. This requirement is to be extended to producers when the regulations are revised in 2002.

- The United Kingdom has not yet implemented the requirements for hazardous waste producers. Germany's record keeping system is not in line with Article 4(2). Belgium, France, Italy, the Netherlands, Austria and Sweden gave no information on the implementation of the requirements for the transport of hazardous waste. Portugal and Ireland gave no information on the implementation of Article 4(2).

### **3.8. Measures to ensure proper packaging and labelling of hazardous waste – Article 5**

*According to Article 5 (1) hazardous waste has to be properly packaged and labelled in the course of collection, transport and temporary storage in accordance with the international and Community standards in force.*

**Austria** restated that the corresponding packaging and marking provisions are laid down and made compulsory by §4 of the Transport of Dangerous Goods Act<sup>112</sup>.

As regards **Belgium**, the **Walloon region** restated that establishments which carry out transport, collection, treatment, recovery and disposal operations on hazardous waste need an authorisation, which includes requirements on packaging and labelling. The **Flemish region** referred back to information it provided for the 1995-1997 report where it set out the legal requirements applying on packing and identification of wastes during

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<sup>112</sup> (GGBG, BGBl. I No 145/1998)

collection, transport and temporary storage. The **Brussels region** referred to the legal texts applying, without any other detail.

**Denmark** reaffirmed that Article 5(1) has been implemented and referred again to its relevant letter of 18/7/96 to the Commission, in which Denmark confirmed that Article 5(1) had been transposed by § 54 of bekendtgørelse no 581 of 24 June 1996.

**Finland** confirmed the implementation of Article 5(1) and referred back to the 1995-1997 report.

**France** also confirmed the implementation and provided again only a description of its legal provisions governing packaging, labelling and transport of hospital and infectious healthcare waste. No information on other hazardous waste is given.

**Germany** stated that requirements pursuant to Article 5(1) are set out in the Dangerous Goods Transport Regulation.

**Greece** informed that the collection, transport and preliminary storage of hazardous waste are managed on the basis of a permit granted by the competent authority for the specific purpose and subject to terms, which are determined according to the type, quantity and physical and chemical characteristics of the waste. These should be in compliance with international or Community standards.

In **Ireland** the requirements of Art. 5(1) are satisfied through relevant provisions of the Waste Management (Hazardous Waste) Regulations and the Waste Management (Movement of Hazardous Waste) Regulations of 1998<sup>113</sup>. According to these, packaging used for temporary storage or transfer of hazardous waste must be properly labelled under the responsibility of the waste producer or consignor respectively, unless the local competent authority approves the mixture of such waste.

In **Italy** Article 15(3) of Legislative Decree 22/1997 requires that, during collection and transport, hazardous waste be properly packaged and labelled. Ministerial Decrees fix the details that have to be indicated.

**Luxembourg** reaffirmed that these provisions have been implemented and referred to the 1995-1997 report. According to that report the provisions were implemented in Luxembourg by Article 5 of the Regulation on Hazardous Waste of 11 December 1996.

**The Netherlands** referred again to the provisions contained in the Act on the transport of dangerous substances<sup>114</sup>, as well as to other relevant legislation. The vast majority of hazardous wastes are also dangerous substances, and as such their collection, transport and temporary storage are regulated by the above-mentioned legislation. In the case of hazardous wastes which are not classified as dangerous substances, transport rules are included in the road transport legislation. A permit under the Environmental Management Act is required for the storage of hazardous wastes. The permit lays down rules relating to safety and also, for example, the prevention of leaks into the ground and groundwater.

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<sup>113</sup> Articles 22 and 5(1)b respectively.

<sup>114</sup> Wet vervoer gevaarlijke stoffen - Staatsblad 1995, 525

**Portugal** reported that, in accordance with the provisions of Order 335/97 of 16/5/97, the transport of wastes must be carried out under environmentally appropriate conditions in order to avoid dispersal and spills. If the waste to be transported meets the criteria for classification as hazardous waste, the packaging and labeling procedures must meet the requirements laid down. Temporary storage of wastes is subject to prior authorization taking into account the packaging and labeling aspects. Specific provisions apply for selected waste streams such as hospital waste, PCBs and waste oils.

**Spain** confirmed that the necessary measures have been taken through Articles 13 and 14 of Royal Decree 833/89.

**Sweden** restated that packaging and labelling should be carried out in accordance with the rules on Transport of Dangerous Goods.

The **UK** reported that it has not taken the necessary measures yet and is currently considering the drafting of suitable references.

- As regards the proper packaging and labelling of hazardous waste, **France** confirmed the implementation only for hospital and infectious healthcare waste and the **United Kingdom** has confirmed that suitable references are being considered.

### **3.9. Waste management plans and waste statistics – Article 6**

*According to Article 6 the competent authorities shall draw up, either separately or together with the general waste management plan, plans for the management of hazardous waste.*

The data and information on waste management plans on hazardous waste are included in Table 2 of the report on Directive 75/442/EEC.

**Belgium** repeats the figures for the Flemish Region given in the previous report. In the Flemish Region hazardous waste plans have been drawn up since 1 January 1997 in the framework of the general waste management plans. Environmental policy plans consist of: a) the environment report which describes the state of the environment and makes forecasts ("MIRA-Thema's" for 1998 and 1999 and the "MIRA-Scenario's" for 2000); b) the five-year environment policy plan ("MINA-plan" for 1997-2001), which contains the main lines of Flemish environment policy; c) the annual environment programme, which contains the actions implementing and rendering operational the environment policy plan. Various actions in this plan concern hazardous waste, such as the disposal plan for PCB-containing appliances and the implementation plan for the separate collection of industrial waste from small undertakings, and d) sectoral policy plans for waste. The environment policy plans were also drawn up in the framework of the general waste management plans as referred to in Article 7 of Directive 75/442/EEC.

**Germany** indicates that in 12 (of 16) Länder there is an independent hazardous waste management plan.

In **Spain** the national plans are drawn up separately for each type of waste. Some regions have integrated or general plans.

In **Greece** the management plans for hazardous waste have been drawn up in the framework of the waste management plans referred to in Article 7 of Directive 75/442/EEC and are included in Joint Ministerial Decision 14312/1302/2000<sup>115</sup>. The design of the management plans is currently being completed with regard to the pre-selection of suitable sites for the creation of centres for the preliminary storage, treatment, utilisation and final disposal of hazardous waste.

**Ireland** explains that special waste plans prepared by local authorities under the 1982 Regulations were drawn up separately from waste management plans made under relevant 1979 Regulations. The NHWMP made by the EPA is separate to the Waste Management Plans being made by local authorities for the purposes of article 7 of Directive 75/442/EEC<sup>116</sup>.

In **Luxembourg** the plans were developed in the framework of the general national waste management plan drawn up in accordance with Directive 75/442 as amended.

In the **Netherlands** the Multiannual Hazardous Waste Plan II (Meerjarenplan gevaarlijke afvalstoffen II) is a waste management plan within the meaning of Article 7 of Directive 75/442/EEC. Together with the Ten-Year Waste Programme (for domestic and assimilated commercial waste) it forms a coherent framework for the planning and management of wastes within the meaning of Article 7 of Directive 75/442/EEC.

**Austria** has drawn up these plans pursuant to the general Waste Management Plan (Federal Waste Management Plan 2001). The waste management plans in **Sweden** have been drawn up according to Directive 75/442/EEC.

The plans of the **United Kingdom** reflect the framework of the general waste management plans referred to in Article 7 of Directive 75/442/EEC.

- In most Member States hazardous waste is included in the general waste management plans. The state of transmission is summarised in section 3.1 of the report on Directive 75/442/EEC.

### 3.10. Temporary derogation from this Directive – Article 7

*According to Article 7, in cases of emergency or grave danger, Member States shall take all necessary steps including temporary derogation from this Directive to ensure that hazardous waste is dealt with so that it will constitute a threat to the population or the environment. The Commission has to be informed thereof.*

None of the Member States applied Article 7.

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<sup>115</sup> Gov. Journal 723/B/2000, 9-6-2000

<sup>116</sup> Reference is also made to section 22(8) of the Waste Management Act, 1996.



### 3.11. In addition to the questionnaire – Article 8 (3)

*Article 8(3) requires Member States to send the Commission information for every establishment or undertaking which carries out disposal and/or recovery of hazardous waste principally on behalf of third parties and which is likely to form part of the integrated network referred to in Article 5 of Directive 75/442/EEC. This information should consist of name and address, method used to treat the waste and types and quantities of waste which can be treated and is to be provided on a yearly basis in a format laid down in Decision 96/302/EC<sup>117</sup>. The Commission shall make this information available on request to the competent authorities in the Member States.*

Up to May 1999 the Commission had received information from all Member States except Italy. Only Germany has provided a first update of the information. The other Member States only provided information once.

Not all Member States sent in the complete information or in the right format. The information from Greece was incomplete and only consisted of the name and address of the installations<sup>118</sup>. The information from Germany contained all the required data. However the information as regards the waste that can be treated is given in the form of the LAGA-codes and not according to the European Waste Catalogue. As regards the United Kingdom the information is complete except for the types of wastes treated in the installations in England. In the French contribution the information on treated waste types is also missing. In the Irish and Portuguese information the waste types are not mentioned systematically. As regards Portugal also the information on the treatment method is lacking for some installations. All the other Member States have provided all the information in the required format.

The European Topic Centre on Waste and Material Flow has created the Database on Waste Management Facilities, which includes all the information received pursuant to Article 8 (3) on installations treating hazardous waste.

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<sup>117</sup> OJ No L 116, 11.5.1996, p. 26.

<sup>118</sup> In its judgement of 13 June 2002 (Commission v. Hellenic Republic, case C-33/01) the European Court of Justice declared that Greece had failed to fulfil its obligations under Article 8(3) of Directive 91/869/EEC.

# DIRECTIVE 75/439/EEC ON THE DISPOSAL OF WASTE OILS

## 1. INTRODUCTION

Directive 75/439/EEC<sup>119</sup> *on the disposal of waste oils*, amended by Directive 87/101/EEC<sup>120</sup> is designed to create a harmonised system for the collection, treatment, storage and disposal of waste oils, such as lubricant oils for vehicles and engines. The Directive also aims to protect the environment against the harmful effects of such operations. Waste oils are hazardous because they are carcinogenic. Untreated waste oils that are found in rivers, lakes and streams can threaten aquatic life, while soil contamination results from untreated oils being left on the ground.

In particular, the main provisions of Directive 75/439/EEC are:

- definition of waste oils: any mineral-based lubrication or industrial oils which have become unfit for the use for which they were originally intended, and in particular used combustion engine oils and gearbox oils, and also mineral lubricating oils, oils for turbines and hydraulic oils (Article 1);
- definition of regeneration: any process whereby base oils can be produced by refining waste oils, in particular by removing the contaminants, oxidation products and additives contained therein (Article 1);
- definition of disposal which, unlike the definition of disposal in Directive 75/442/EEC, includes both recovery and disposal
- the obligation to ensure that waste oils are collected and disposed of without causing any avoidable damage to man and the environment (Article 2)
- the obligation to give the priority to the regeneration of waste oils upon other disposal option, when economic, organisational or technical constraint so allow (Article 3);
- if the constraint mentioned above prevent the regeneration of waste oils, the next option to consider is their combustion (Article 3);
- the prohibition of discharges of waste oils to surface water, groundwater, drainage systems or coastal waters or into the soil (Article 4);
- the prohibition of processing of waste oils that may result in air pollution exceeding prescribed levels (Article 4);
- the collection of waste oils must be ensured and controlled. Waste oil collectors have to be registered (Article 5).
- Undertakings regenerating or incinerating waste oils must have a permit (Article 6)

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<sup>119</sup> OJ L 194, 24.07.1975, p. 31

<sup>120</sup> OJ L 42, 22.12.1986, p. 43

- Undertakings regenerating waste oils do not cause avoidable damage to the environment and are subject to periodic inspections (Article 7);
- The establishment of emission limit values for the incineration of waste oils (Article 8);
- The prohibition to use waste oils containing more than 50 ppm of PCBs (Polychlorinated biphenyl) as fuel (Article 8)
- Record keeping obligation for establishment producing, collecting and disposing of waste oils (Article 11)
- Obligations of periodical inspections for undertakings regenerating or incinerating waste oils (Article 13)
- Possibility of granting indemnities to a collection or disposal option (Article 14)
- reporting requirements (Article 18).

This report is based on the replies to the questionnaire established by Commission decision 94/741/EC<sup>121</sup>.

## **2. INCORPORATION INTO NATIONAL LAW**

This report is a synthesis of the replies to the questionnaire sent by Member States for the period 1998-2000 on the disposal of waste oils. Although sometimes with long delays and gaps, all 15 Member States have answered the questionnaire. This is an improvement compared to the previous period 1995-1997 for which some Member States did not send their reply on time for the elaboration of the report and other sources had to be quoted.

### **2.1. National law**

All Member States have provided the Commission with the laws and regulations in force concerning the disposal of waste oils.

By December 2002, infringement cases were being pursued concerning Austria, Portugal and Ireland with regard to incorrect transposition. Actions were brought before the Court in the cases against Austria<sup>122</sup> and Portugal<sup>123</sup>. Infringement cases were also being pursued concerning Greece, France, Sweden, Denmark, Belgium, United Kingdom and Finland with regard to instances of incorrect implementation.

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<sup>121</sup> OJ L 296, 17.11.1994, p. 42

<sup>122</sup> C-15/03

<sup>123</sup> C-392/99

## 2.2. Provisions regarding the regeneration of waste oils – Article 7

*According to Article 7 Member States shall take the necessary measures to ensure that the operation of the regeneration plant does not cause avoidable damage to the environment (Article 7 (a)). In addition Member States ensure that base oils derived from regeneration do not constitute a hazardous waste and do not contain PCB/PCT in concentration beyond the limits of 50 part per million (ppm) (Article 7 (b)).*

**Austria** and the **Netherlands** stated that no such measures were taken, as there are no regeneration plants in their territories. **Greece**, **Portugal** and **Flanders** replied that such measures had been taken.

**Greece** specified that undertakings wishing to process waste oils by regeneration submit an environmental impact assessment (EIA) to the competent authority (Ministry for the Environment, Regional Planning and Public Works). The Ministry evaluates the EIA and, if it is complete, draws up the environmental terms and makes a recommendation to the other competent ministers for the issue of a joint ministerial decision on the matter. The environmental terms include the conditions and restrictions provided for in Directive 75/439/EEC (Joint Ministerial Decision 98012/2001/96). Furthermore hazardous waste produced by the regeneration is managed in accordance with Joint Ministerial Decision 19396/1546/97 (Gov. Journal 604/B/1997).

**Portugal** stated that the measures taken to ensure that regeneration units are operated without causing damage to the environment are laid down in the law of 22 December 1986 incorporating into Portugal's national legislation Directive 75/439/EEC, as notified to the Commission, and in Portugal's other national legislation on waste management. However, there are no units for regeneration of waste oils in Portugal.

The rest of the Member States did not reply to this question.

## 2.3. More stringent national measures - Article 16

Pursuant to Article 16 Member States may take more stringent measures than those provided in the Directive for the purpose of environmental protection.

**Portugal**, **France**, **Spain**, **Ireland**, **United Kingdom** and **Greece** stated that they had not considered it necessary to adopt more stringent measures than those in the Directive.

As regards **Belgium**, the **Flemish Region** did adopt more stringent measures, in particular through Article 5.2.3.5.2 of Vlarem II and Article 4.2.5 of the Flemish Regulation concerning waste prevention and management of 17 December 1997 called VLAREA. The **Walloon Region** had already announced in the previous report that more stringent measures were taken with regard to Article 4 on the prohibitions of discharges. These measures render more specific and precise the obligations for the management of waste oils.

**The Netherlands** has also taken more stringent measures in particular pertaining to the incineration of waste oils. Indeed, according to Dutch legislation waste oil may not be incinerated in a waste incineration plant or centrifugal drum oven. Furthermore there are limit values for the halon and PCB content of waste oils used as fuel or in the

manufacture of fuel. Indeed, these limit values apply to all fuels. As a result, some waste oil cannot simply be processed into fuel.

**Finland** has taken more stringent measures pertaining to the incineration of waste oils. Indeed it is forbidden to incinerate waste oils in a boiler or other plant with a fuel capacity effect of 5 megawatts or less.

**Luxembourg** does not really address a more stringent measure but rather the application of an existing obligation of the Directive, namely Article 3 and the priority to the regeneration of waste oils.

**Austria, Germany, Sweden** stated that more stringent measures had been adopted but no explanations of their nature were given.

### 3. IMPLEMENTATION OF THE DIRECTIVE

#### 3.1. Waste oils management – Articles 2 and 3

*Pursuant to Article 2 Member States shall take the necessary measures to ensure that waste oils are managed without causing any avoidable damage to man and the environment. According to Article 3 first priority shall be given to regeneration, second priority to combustion and last priority to safe destruction (treatment) and disposal. (As regards constraints see question 2)*

All Member States replied that the necessary measures had been taken to ensure that waste oils were collected and disposed of without causing any avoidable damage to they environment.

Table 1 lists the amount of oil put on the market, waste oils generated, waste oils collected, waste oils incinerated and waste oils tipped as indicated by Member States.

Many Member States have not replied to the question “waste oil generated”, for these cases, the Commission has taken the average “conversion factor” of 50%<sup>124</sup> to calculate the amount of waste oil generated from the quantity of fresh oils put on the market. The collection rate has thus been calculated as the amount of waste oil collected over the amount of waste oil generated.

Processing exclusively the data provided by Member States (no other sources) this exercise reveals that for the year 2000, the collection rates are as follows: Austria 76%, Belgium 59% (for the year 1999, as no figure provided for 2000), Denmark 89%, Finland 94%, France 82%, Germany 84%, Greece 67%, Ireland 90%, Italy 58%, Luxembourg

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<sup>124</sup> In literature in can be found that approximately 50% of the oils put on the market will become waste oils (the rest is lost during the use, by combustion in the engines, by spillage or left in the containers). Nevertheless not all applications of oils would yield 50% of waste oils. Some applications consume completely the oil while others yield almost 100% of waste oils (hardly no quantity is lost during the use). Therefore this “conversion factor” from oils put on the market to waste oils of 50% is an average for all oils uses. It has been found that not all Member States have this conversion factor, as it depends on the practices in Member States, the average age of vehicles (the older the vehicles the more oils they consume and burn and hence less quantity would become waste oils).

99%, The Netherlands 92%, Portugal 91% Spain 87%, Sweden 89% and UK 81%. The EU average collection rate is 83%, which means that around 20% of waste oils are illegally dumped or illegally incinerated causing harm to the environment.

Figure 1 presents the quantities marketed/generated/collected per 1000 inhabitants. Figure 2 provides an overview of the management of waste oils in the European Union.

- The general picture from year 2000 shows that, in average, approximately 66% of the waste oils generated were combusted and 24% of waste oils generated were regenerated. Taken together these figures suggest that approximately 90% of waste oils generated are recovered, either by regeneration or as fuel<sup>125</sup>. This globally maintains the picture from year 1997, as presented in the previous 1995-1997 report, and does not suggest any significant improvement in the management of waste oils in the EU.

### 3.2. Constraints regarding the regeneration and combustion of waste oils – Article 3

*According to Article 3 (1) and (2) Member States shall give the first priority to the regeneration of waste oils and second priority to the combustion of waste oils under environmentally acceptable conditions where technical, economic and organisational constraints so allow. Where the constraints do not allow regeneration or combustion, Member States shall take the necessary measures to ensure the safe destruction or controlled storage of waste oils (Article 3 (3)).*

As regards **Belgium** the **Flemish Region** and the **Brussels Region** did not have any constraints with regard to regeneration and combustion.

In the **Walloon Region** there was no regeneration capacity as regeneration was not deemed financially viable compared to the production of base oils by the petrochemical industry and as the low quality of regenerated oils made their marketing difficult. In order to comply with the obligation to give priority to regeneration a regeneration installation was constructed, which will be able to regenerate two thirds of the waste oils in the Walloon Region. Further, a take-back obligation for producers, importers and distributors of waste oils including collection and recovery/regeneration objectives will be introduced. In order to set harmonised objectives in Belgium and to give priority to regeneration an agreement between the three Regions and the persons responsible for putting oils on the market is being negotiated.

In **Denmark** before May 2001 there were no installations for regenerating waste oil. The study project mentioned in the previous report showed that there was no economic base for it. As it has not been possible to regenerate to base oil, waste oil was burnt (after refining) at district heating plants. Until July 2000, subsidies were granted to private collectors of waste oil in the form of compensation for energy and CO<sub>2</sub> tax if waste oil was passed on to district heating plants. Since 1 July 2000, waste oil collection has been financed by the oil sector.

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<sup>125</sup> This average percentage is slightly higher than the average collection rate stated above and this is probably due to the fact that in some cases waste oils generated are incinerated on site without being collected.

**Germany** replied that there were no constraints with regard to regeneration and combustion of waste oils. Germany explained that priority is given to the regeneration of waste oils. In order to give security to the companies that regenerate waste oils for investments in modernising their installations, it is planned to subsidise the regeneration of waste oils.

**Spain** replied that there were constraints to regeneration, as there are few installations for the regeneration of waste oils. There are no constraints to the combustion of waste oils.

**Greece** replied that there were no constraints to regeneration and combustion. Greece explained that the environmental terms approvals referred to in question I.2 include terms, which to a great extent protect human health and the environment. The preferred option is for waste oils to be collected and sent for regeneration. Greece has many approved waste oil regeneration plants. The competent authorities impose terms and restrictions on the temporary storage of waste oils, in order to protect public health, on the basis of Joint Ministerial Decision 98012/2001/96 (Gov. Journal 40/B/96) laying down measures and terms for the management of waste oils, Joint Ministerial Decision 69269/5387/90 on the compilation of environmental impact assessments (EIA), Joint Ministerial Decision 72751/3054/85 (Gov. Journal 665/B/85) on toxic and hazardous waste and the removal of PCBs and PCTs and Joint Ministerial Decision 19396/1546/97 (Gov. Journal 604/B/97) on the management of hazardous waste.

**Ireland** stated that there were substantive technical and economic constraints to the regeneration of waste oils and that there were no evident practicable steps which could be expected to overcome these constraints. In 1998 a Strategy Study Report was prepared to assist in the preparation of the National Hazardous Waste Management Plan. The report concluded that it was not viable to build a new regeneration facility as the feedstock threshold would be higher than the total usage of lubricating oils in Ireland. Instead the report favoured the expansion of existing processing facilities to deal with higher waste oils inputs and deliver an improved environmental performance. Therefore no measures are proposed for the promotion of regeneration of waste oils in preference to its reprocessing for use as fuel.

In the **Netherlands** Government policy in the early 1980s was directed towards processing waste oil in a central processing unit in order to regenerate base oil. This treatment was never actually implemented because of commercial restrictions. In 1986 a plan was made, together with the producers of lubricating oil, to construct a central processing unit for waste oils with the (main) aim of producing high-grade fuels (marine diesel oil). An undertaking was given a permit to that end. Although a Government subsidy was approved, the plant was never built.

Some waste oil is now exported for regeneration into base oil. This market is hampered by the fact that collectors of waste oil turn to (cheaper) markets abroad where waste oil is used primarily as fuel. In 1998 the maximum permissible concentration of organic halogens in oil used as fuel or as a raw material for the manufacture of fuel was reduced from 500 mg/kg to 50 mg/kg. As a result, waste oil can no longer be used for the production of fuel.

Where waste oil is processed in the Netherlands, this takes the form of separation in a centrifuge followed by combustion, with the main use being as fuel. The remaining waste

oil is exported for useful applications, whether this be regeneration or the main use as fuel.

**Portugal** explained that there were several constraints to the setting up of regeneration units on Portuguese territory. The quantity of waste oils collected, especially of high-quality oils, is below the normal break-even point of 60 000 to 80 000 tonnes calculated in the study entitled "Economics of waste oils regeneration" by Coopers & Lybrand, The Hague, dated 29 January 1997. Furthermore, Regulation (EEC) No 259/93 of 1 February 1993 makes it impossible to prohibit exportation of waste oils for energy recovery; this is a disincentive for potential investors in regeneration units on Portuguese territory since they have no guarantee that the waste oils collected will be channelled to their units. Another constraint is that the base oils market is close to saturation point, which likewise does not encourage regeneration.

In Portugal there are no constraints with regard to the combustion of waste oils. However, in Portugal pre-treatment of waste oils is mandatory before they can be sent for incineration. This treatment takes the following form: the waste oil is filtered and dehydrated, the metals are removed and the oil is centrifuged. Installations performing these operations must first obtain the industrial permit provided for by Decree-Law No 282/93 of 17 August 1993.

**Finland** referred to its reply of 1 June 2001 to the letter of formal notice of the Commission concerning the application of Article 3. According to this letter there are economic and organisational constraints to giving priority to the processing of waste oils by regeneration. These are due to the small amount of waste oils produced, the low price of regenerated oils and the low demand for regenerated oils.

**Sweden** replied that it did not regenerate waste oils.

In the **United Kingdom** limited processing of waste oils took place until 2000. It required high levels of investment. The main competition for source waste oil came from firms that recover energy from waste oils. Additionally, competition between oil companies and the falling price of virgin oil have combined to affect the viability of regenerating waste oil. There are no constraints with regard to the combustion of waste oils. All collected waste oils are processed by combustion under EO compatible conditions.

**France, Italy, Luxembourg** and **Austria** replied that there were no constraints with regard to regeneration and combustion of waste oils, without giving further explanations.

- Many Member States have still not transposed into national legislation the priority of regenerating waste oils. In the course of the ongoing infringement procedures some Member States have transposed this obligation.
- Those Member States who replied that there were constraints to regeneration attributed these mainly to economic aspects such as the low amount of waste oils produced, the possibility of low cost combustion in other Member States and the saturation of the base oils market. One Member State indicated that there were constraints as regards the combustion of waste oils due to the setting of pollutant limit values.



### 3.3. Public information and promotional campaigns – Article 5

*According to Article 5(1) Member States shall carry out public information and promotional campaigns to ensure that waste oils are stored appropriately and collected as far as possible*

As far as **Belgium** is concerned, the **Walloon Region** stated it had not carried out any specific campaign as regards waste oil in order to make the public sensitive. Awareness had been raised by more general campaigns directed towards the general public and giving information about which dispositions to be taken, especially concerning household waste with a view to protect the environment. The campaigns have been carried out during "green weeks" (general advice and information about the general handling of household waste), by various publicity spots, publication and signs and information established by the local authorities towards their citizens. The **Flemish Region** has not carried out any informational or promotional campaign.

**Austria** has produced announcements, lectures, press statements, information leaflets.

**Germany** stated that public awareness had been raised in particular through Sections 38 and 39 of the Closed Substance Cycle Waste Management Act (Kreislaufwirtschafts- und Abfallgesetz) of 27 September 1994. These provisions require the statutory bodies responsible for waste management and private-sector organisations to provide information and advice on the possibilities for avoiding, recovering and disposing of waste. The competent authorities in each Land inform the public of progress in waste avoidance and recovery and of the arrangements for waste disposal. Furthermore, the environmental authorities of each Land and district inform the public through press releases and the regular distribution of information leaflets about the environmentally sound disposal of waste oil, the obligation for sellers to take back used engine oil and gearbox oil, and waste oil collection points.

**Denmark** indicated that no such campaigns had been carried out.

**Spain** indicated that public awareness campaigns had been carried out at national level, through TV, radio and press campaigns. At regional level, campaigns of the same type had been undertaken, supplemented by publications and distribution of brochures and other documents. Targeted campaigns were also organised with the sectors concerned and the relevant industrial associations.

**Finland** already indicated in the previous report that some public awareness campaigns had been undertaken in collaboration with Ekokem Oy Ab (national hazardous waste treatment facility).

**France** stated that the ADEME (the French Environment Protection Agency) carried out permanent actions to inform waste collectors and professionals in the automobile sector. A toll free number has been set up to reply to information request from the citizens "numéro vert (0800 38 39 40)", in particular to provide information on the collection points for waste oils. The web site of ADEME [www.ademe.fr](http://www.ademe.fr) includes a section of information on waste oils. 30.000 units of a brochure on hazardous household waste were published in 2000. Upon the request of professional waste oil collectors the ADEME undertook a communication campaign which started in 2001 and is due to finish in 2003. The aim of this campaign was to improve the collection of waste and the quality of the

waste oils collected. The campaign targeted the general public, the professional of the automobile repair sector, the construction sector. The campaign was custom made for the different targeted groups. For households, a “serveur vocal interactif”, was set up which would provide information on the different collection points. For retailers and gas stations and waste collection facilities, panels were distributed to indicate the collection containers for waste oils. For garages, awareness was raised through specialised magazines and training.

**Greece**, as already stated in the previous report of 1995-1997, indicates that the technical specifications for the management of waste oils, and also public information and awareness programmes concerning the correct method of management, are currently being drawn up.

**Ireland** indicated that a Green Garage Guide was produced by the Society of the Irish Motor Industry in October 1999, but no action undertaken by the authorities was mentioned.

**Italy** submitted a summary of communication activities carried out by the Consorzio Obbligatorio degli Oli Usati (mandatory consortium for waste oils) in the period 1998-2000. These activities included a systematic and detailed environmental education campaign - among other things - with the patronage of the Ministries for the Environment and for Public Education. The project, called "CircOLIamo Scuola", aimed at the world of education, namely students, teachers and families. The Consorzio's work in 2000 was characterised by the progressive extension of the target audience from schools to the more general target of young people. Indeed, for about six months, in agreement also with the Ministry for Public Works and the National Agency for Environmental Protection, a travelling educational campaign, "CircOLIamo Giovani" circulated among discotheques and schools to spread the values of the environment and road safety. Furthermore a targeted method was used, namely the instrument of telepromotions, which were inserted in specially selected television programmes in order to reach the targets identified, namely families, motor enthusiasts, sports enthusiasts or the very young. The success of this initiative was gauged through the extraordinary rise in telephone calls made to the Consorzio's "green number". During the year 2000, finally, the Consorzio gradually stepped up its activities of awareness-raising in the strategic "do-it-yourself" sector, both by radio campaigns aimed at drivers and through initiatives targeted at critical sectors, including the sailing sector in particular.

**Luxembourg** already stated that various operations have been set in motion as part of the “Superdreckskäsch” campaign initiated by the Ministry of the Environment: publicity spots and campaigns on the radio, in newspapers and the cinema along with participation in trade fairs. The campaign for citizen is called “Superdreckskäsch fir Biirger” and for the commercial sector “Superdreckskäsch fir Betriiber”.

**Portugal** indicated the national information and public awareness campaign on the use of waste oils was based on a brochure entitled "Waste oils - collection and reuse" published in 1988 by the Directorate-General for Energy and the Directorate-General for Environmental Quality (the Waste Institute took over the responsibilities of the Directorate-General for Environmental Quality for waste following publication of Decree-Law No 236/97 of 3 September 1997). The information in this brochure was updated in 1992. The information and public awareness campaign started with a pilot project in the Alentejo region and was subsequently extended to the entire country, using

the following teaching aids: a brochure entitled "Waste oils - collection and reuse", a film entitled "Don't throw away your waste oils", a poster stating "Don't throw away your waste oils". In addition to the above mentioned activities, training and awareness-raising schemes have been organised, notably in the form of a helpdesk (via telephone, e-mail or post) to clarify questions from various sectors of society (industry, students, private individuals) on the widest variety of issues relating to waste, including the waste oils stream; participation in the many activities organised in Portugal on waste (training courses, seminars, conferences and other events); participation, in response to requests from the widest variety of media, to raise awareness of waste issues and, in particular, of waste oils, amongst the general public.

**Sweden** carried out initiatives to improve the collection of hazardous waste in various municipalities and a national campaign was conducted in May 2000 to collect hazardous waste from households, waste oil, car batteries, paint residues, etc.

**United Kingdom** described the Oil Care Campaign, which is part of an initiative to reduce oil pollution. The campaign aims to raise awareness of the problems of oil pollution and how it can be prevented through careful handling and storage, and through increased recovery and recycling. The campaign promotes the following initiatives. The Oil Bank Helpline (toll free) assists the public to find the location of their nearest oil recycling bank. The line is currently offering advice to about 150 callers each month and is advertised through leaflets, by advertisements in car maintenance manuals for domestic use, and on the majority of cans of oil. The Emergency Hotline (toll free), helps the public to report pollution incidents. The Oil Care Code is a simple guide for domestic and commercial users to prevent oil pollution.

- Most Member States, except Denmark, Greece and Belgium (Flemish Region) have carried out public information and promotional campaigns.

#### **3.4. Details on undertakings collecting waste oils**

*In Question 4, Member States were asked to submit details on undertakings collecting waste oils.*

**The Netherlands** replied that the collection of waste oil in quantities/packaging of more than 200 litres requires a permit from the Minister. Six permits have been issued for the collection of "large quantities" using vacuum trucks. Permit holders are monitored by the national government. A further 22 collectors of small quantities of hazardous waste have also obtained permits for the collection of waste oil in packaging of less than 200 litres.

**Denmark** claimed that waste oil is collected through registered private companies or under municipal collection schemes and that they did not have information on the number of registered private collectors.

**Finland** replied that all undertakings which collect wastes and hazardous wastes on commercial basis shall be registered to the waste data register, in accordance with Section 49 of the Waste Act (1072/1993) and Sections 13 and 14 of the Waste Decree (1390/1993). The figures presented in the table are estimated on the basis of the information included in the waste data register by the regional environment centres.

**Greece** indicated that there were no authorised waste oil collection companies in Greece. The oil is collected by sole proprietorships, which have been granted permits for that purpose by the competent authorities of the prefectures.

Table 2 summarises the replies from Member States.

- The structure of waste oil management as regards the level and number of competent authorities responsible for issuing permits as well as the number of undertakings varies widely between Member States.

### **3.5. Allocation of waste oils to any of the types of processing – Article 5(3)**

<i>According to Article 5 (3) Member States may decide to allocate the waste oils to any of the types of processing (regeneration and combustion).</i>
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**Austria, Belgium, Denmark, Italy, Portugal, Sweden, UK** replied that waste oils had not been allocated to any particular processing pursuant to Article 5.

**Finland** has already stated in its previous 1995-1997 report that in addition to the Finnish Council of State Decision 101/1997 (setting down the hierarchy of regeneration, energy recovery and safe disposal for waste oils), the Ekokem Oy Ab (national hazardous waste treatment facility) recommends that waste oils should be allocated into a) black engine oils, b) lubricating oils like hydraulic oils and gear oils, which do not contain PCBs, c) lubricating oils containing water, d) vegetable oils and e) other oils wastes e.g. PCB containing oils, fuel wastes and bilge oils. For waste oils listed in a) to d) first priority is given to regeneration and second to energy recovery. Waste oils listed in e) should be disposed of safely. In practice, business establishments send once a year annual summaries of bookkeeping to the supervising authority. The obligation to do so is normally based in the permits. Inspections of the waste oil management facilities are planned at least once every three years.

**France** stated that any allocation of waste oils was in compliance with Article 3 of the Directive, whether it concerns regeneration or combustion.

**Germany** recalled that waste oils had not been allocated to any recovery option pursuant to Article 5. However, the existing legislative provision (Waste Oils Regulation) is currently being amended to make the priority given in Germany to processing waste oil to regenerate base oil and process-related co-products compulsory. The monitoring of processing plants in accordance with the Federal Immission Protection Act (Bundes-Immissionsschutzgesetz) and the provisions adopted for its implementation ensures that the processing does not cause any avoidable harmful effects for man and the environment.

**Greece** explained that the treatment / regeneration of waste oils in Greece is carried out mainly by the sulphuric acid method, mostly at small, old, plants. There is also one large plant at which regeneration is carried out by the catalytic hydrogenation method. In addition, waste oils are treated following options other than regeneration. The waste oil regeneration plants must have been granted a permit specifically for the purpose by the competent services (of the Ministry for the Environment, Regional Planning and Public Works / Ministry of Development). The permits provide for regular and impromptu checks at the plants to verify compliance with the terms laid down. The checks are

carried out by the competent local (prefectural) authorities and by the ministries, which share competence.

**Luxembourg** replied that the different provisions had been established by waste legislation adopted in 1994, which also applies to waste oils. Waste recovery is given precedence over waste disposal. Material recovery is given precedence over energy recovery. As Luxembourg does not have any regeneration plant, nor an energy recovery plant for waste oils, all waste oils are exported. Their destination is controlled through the notification mechanisms of Regulation 259/93 on the shipments of waste.

**Spain** indicated that waste oils have been allocated to regeneration, recycling and energy recovery. The checks are laid down in the Order of 28 February 1989 governing the management of waste oils and the Order of 13 June 1990 amending it.

**Ireland** and the **Netherlands** did not provide any details on this question.

- Most Member States have not allocated the treatment of waste oils to regeneration or combustion, but some Member States have general provisions giving preference to recycling or regeneration.

### **3.6. Details on undertakings which handle (in the questionnaire: “dispose of”) waste oils**

*According to Article 6 undertakings which handle (regenerate, burn, dispose of) waste oils must obtain a permit. In question 6 Member States were asked to submit details on undertakings, which handle waste oils only, and those, which handle waste oils and other wastes.*

The information is contained in Tables 3.1 and 3.2.

Member States were also asked to indicate how the competent authority satisfied itself that all appropriate environmental and health protection measures have been taken.

**Austria** replied that this was ensured by means of licensing pursuant to various laws, and repeated inspections under the Waste Management Act (Abfallwirtschaftsgesetz) and the Trade, Commerce and Industry Regulation Act (Gewerbeordnung).

**Belgium**, as concerns the **Flemish Region**, informed that this is ensured through the application for an environmental permit. The competent authority is able to check whether all appropriate measures have been taken to protect health and environment. If necessary, inspections are carried out on the spot, as well as the imposition of environmental conditions in the permit from Vlarem II. Furthermore environmental inspections are carried out by the department of the Environment, Nature-, Land- and Water Management Division (AMINAL).

**Denmark** just pointed out that this is guaranteed through conditions for and verification of compliance.

**Finland** replied that undertakings which regenerate waste oils or use them as fuel shall have an environmental permit for their operation in accordance with the Environmental Protection Act (86/2000) and Decree (169/2000). The principles of permit consideration and preconditions for granting a permit as well as requirements for necessary regulations

to be included in the permits are laid down in Chapter 7 of the Environmental Protection Act. These include, *inter alia*, the requirement that the permit regulations concerning the prevention and limitation of emissions shall be based on the best available technology. The above-mentioned legislation entered into force on 1 March 2000.

**France** replied as a general comments to the Tables that at the end of 2000, the number of undertakings authorised to treat waste oils in the continental territory was 36, of which 29 use the waste oils as fuel in cement kilns, etc, one proceeds to regenerate the *black* waste oils and six regenerate *clear* waste oils. Furthermore the companies storing or treating waste oils are subject to an authorisation and a certification by different competent authorities. A regulatory framework ensures the compliance of these installations with their obligations. Moreover periodic inspections are carried out. If an undertaking is found to be on breach of the conditions of its permits, the later can be repealed.

**Germany** indicated that plants in which waste oil is regenerated or used as fuel are subject to a licensing procedure pursuant to §10, in conjunction with §5, of the Federal Immission Protection Act (Bundes-Immissionsschutzgesetz - BImSchG). The licensing procedure includes an examination, based on the state of the art, of the measures taken to avoid harmful effects on man, animals, plants, soil, water, air, and cultural and other objects. The existence of plans to prevent, recover and dispose of waste are also examined. When operational the plant must comply with the limit values set out in the Technical Guidelines for the Prevention of Air Pollution (Technische Anleitung zur Reinhaltung der Luft) or the 17th Ordinance for the implementation of the Federal Immission Protection Act (17. BImSchV). There is constant monitoring by the environmental authorities of the Land.

**Greece** indicated that waste oil regeneration plants must have been granted a permit specifically for the purpose by the competent services (of the Ministry for the Environment, Regional Planning and Public Works / Ministry of Development). The permits provide for regular and impromptu checks at the plants to verify compliance with the terms laid down. The checks are carried out by the competent local (prefectoral) authorities.

**Italy** pointed out that this was ensured by Ministerial Decree 392/96 and Ministerial Decree 124/2000.

**Luxembourg** replied that the Waste Law of 1994, the Regulation of 30 November 1989 pertaining to waste oils and the Law of 10 June 1999 establish the obligation for any installation managing waste oils to have a permit. All technical and organisational requirements are set in the context of these permits.

**Portugal** informed that the appropriate controls have been introduced, in particular a licensing system for various activities, mainly for combustion, under Order 240/92 of 25 March 1992. Furthermore, waste oil transport, disposal and recovery operations may not be carried out without a permit from the Waste Institute (Article 4(2) of Decree-Law No 88/91). Some record keeping obligation have been introduced, as well as regular inspections by staff from the Ministry for the Environment and Regional Planning among other licensing bodies and police authorities. In addition under Articles 4 and 5 on the

general obligation concerning safety and risk prevention, an industrial licence is required for pre-treatment of waste oils for combustion.

**Spain** conveyed that as the competent authority, the regional authorities (NUTS level 2) take the measures laid down in Article 8 of the Order of 28 February 1989 governing the management of waste oils, as notified to the Commission.

**Sweden** replied that location and conditions relating to requisite precautionary measures are decided in the permit dossiers. Self-regulation, reporting obligation, environmental reports and inspection by the authorities are intended to ensure that the activities are conducted with due regard to health and the environment.

The **United Kingdom** explained that all plants for combustion of waste oil are prescribed under Part I of the Environment Protection Act 1990 and can only be carried out after an application for authorisation has been made and determined. All authorities must contain conditions to secure and appropriate level of control. For the larger combustion processes this is by specification of the reclaimed fuel oil, typical values attached as annex A. In Northern Ireland the appropriate legislation is the Industrial Pollution and Control Order (NI) 1997.

**Ireland** indicated that undertakings in question are subject to waste licensing by the EPA under Part V of the Waste management Act, 1996. There is a stringent licensing procedure in accordance with section 40 of the 1996 Act and the Waste Management Regulations, 197 as amended in 1998 and replaced by the Waste management Regulations 2000.

- As for the undertakings collecting waste oils, the structure of waste oil management as regards the level and number of competent authorities as well as the number of undertakings varies widely among Member States. All Member States, except Denmark, reported that they have established permitting systems for installations managing waste oils.

### 3.7. Limit values set for combustion – Article 8

*According to Article 8 (1) Member States shall ensure that the emission values for combustion plants with a thermal input of more than 3 MW (Annex) are being observed. Member States may at any time set more stringent limit values or set limit values for other substances and parameters.*

Table 4.1 presents the emission limit values on various substances set by each Member State.<sup>126</sup>

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<sup>126</sup> It is worth noting that the emission limit values of the Annex to Directive 75/439/EEC for the incineration of waste oils will be repealed by Directive 2000/76/EC on the incineration of waste. When the latter enters into force (2003 for new installations and 2005 for existing installations) it will regulate the incineration and co-incineration of waste oils too. In practice this will mean that the emission limit values for the incineration of waste oils will be much more stringent. This will limit the use of waste oils as fuel to fewer installations that can comply with the requirements and operating conditions laid down in Directive 2000/76/EC.

**Belgium**, as regards the **Flemish Region** submitted limit values for installations with a thermal capacity between 2 and 3 MW and other limit values for installations with a thermal capacity of less than 2 MW. For installations with a thermal capacity of less than 2 MW the limit value is the sum of the pollutants Cd, Ni, Cr, Cu, V, Pb 10 mg/Nm<sup>3</sup>.

**France** stated that emission limit values for the incineration or co-incineration of waste oils were established in a Decree of 1996, which transposes Directive 94/67/EC on the incineration of hazardous waste. Furthermore, the PCB and chlorine content are checked in every waste oil load to ensure that it does not exceed 50 ppm and 0.6% respectively.

**Greece** pointed out that the information available to the Ministry for the Environment shows that there are no waste oil combustion plants in Greece with a thermal input of less than 3 MW.

**Germany** explained that the limit values given in reply to question 7(a) are laid down in the 17th Ordinance for the implementation of the Federal Immission Protection Act (Ordinance on Incineration Plants for Waste and Similar Combustible Substances - Verordnung über Verbrennungsanlage für Abfälle und ähnliche brennbare Stoffe - 17. BImSchV) . These limit values also apply to plants with a thermal input of less than 3 MW (Article 8(1)(b)).

**Sweden** replied that the limit values of the Directive are incorporated in the Waste Oil Regulation. The permit decisions often refer to these limit values as being the applicable limits. The authorities have the option of setting both more stringent limit values and additional parameters where necessary in individual cases.

**Denmark, Luxembourg, Portugal, Spain, Sweden, UK** did not give further comments on this question other than the tables.

**Ireland** did not reply to this question.

- Belgium, Denmark, Finland, Germany, Greece, Italy, Portugal, Spain, Sweden and the UK have reported their limit values and they are all in range with or below the limit values set in the Council Directive. Austria, Belgium, Denmark, Germany, Portugal and Finland also set limit values for combustion plants with a thermal input of less than 3 MW.

### **3.8. Quantity limits for keeping records on waste oils – Article 11**

*According to Article 11 each Member State has to specify the quantity of waste oils (which must be below 500 litres per year) which oblige any establishment (producing, collecting and/or disposing of waste oil) to keep records. These records have to be conveyed on request to the competent authorities.*

**Austria, Belgium (Flemish Region), Denmark, Finland, France, Sweden** seem to convey that there is no minimal quantity established, thus the triggering amount is 0 litres, which means that for ANY quantity produced, collected or treated, records have to be kept.

**Germany** has set a limit of 100 litres above which the record keeping obligations are triggered.



**Greece** has not replied to the question.

**Ireland** informs that a limit of quantity of 500 litres has been established for producers of waste oils; however for collectors and undertakings treating waste oils that quantity is to be established by the permitting authority and was not available to them.

**Luxembourg** refers to the previous report, according to which a minimum quantity is set in the hazardous waste legislation (no details provided).

**Spain** has established a threshold of 500 litres for producers of waste oils and no limit for collectors and undertakings treating waste oils.

**Italy, Portugal and the United Kingdom** did not reply to this question.

- In many reporting Member States it appears that records have to be kept for any quantity produced, collected or treated. Other Member States apply the thresholds set out in the Directive or lower ones.

### **3.9. Indemnities for undertakings which collect and dispose of waste oils – Article 14**

*According to Article 14 as a reciprocal concession for the obligation imposed on them by Member States, indemnities may be granted to collection and/or disposal undertakings for the service rendered.*

**Finland** reported that indemnities may be granted to collection or disposal undertakings. They are estimated at about 1,5-2,5 million euros per year and are paid on account of real costs, excluding e.g. sales revenues of pretreated oil. Due to high oil price and exceptionally high sales revenues of pretreated oil, the indemnities paid in 2000 were only 0,9 million euros. Pursuant to the Waste Oil Charge Act 894/1986 producers and importers of lubricating oils are obliged to pay the waste oil charge. The waste oil charge shall also be paid on transformer and circuit breaker oils, cutting, cleansing and mould release oils and hydraulic oils. Funds accruing from the waste oil charge may be used for covering expenses arising from waste oil and its collection, transport, storage and treatment. They may also be used to cover the expense of on-land oil pollution and combating thereof. Detailed provisions on the use of funds are laid down in the Government Decision 1191/1997. The indemnities are granted by the Ministry of the Environment.

**France** allows for indemnities to collection undertakings. It specified that, in accordance with the "polluter pays" principle, the manufacturers, importers, etc. of oils were subjected, from 1979 to 1998 included, to special charges. Since 1 January 1999, manufacturers, importers, etc. of lubricants, oils and lubricating preparations, whose use generates waste oils, have been subjected to the general tax on the polluting activities. ADEME<sup>127</sup> receives funding, which enables it in particular to remunerate the approved collectors for black oils. This is done on the basis of regular economic audits of the activity of the companies collecting and treating waste oils. The average indemnities per

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<sup>127</sup> Agence de l'Environnement et de la Maitrise de l'Energie

ton of waste oil collected were as follows (including taxes): 1998 : 475,66 FF; 1999 : 538,45 FF; 2000 : 508,67 FF.

In **Greece** the development law provide for incentives, but collection and recycling are regulated by the market and there is no need for indemnities. Indemnities are granted only in cases that fall within the scope of the law relating to incentives.

**Spain** reported that indemnities of up to 7 pesetas per litre are granted for collection, transportation, storage, analysis and/or pretreatment. This is funded from the general state budget by means of an annual call for proposals. This call for proposals covers all management activities. The orders on the management of waste oils earmarked the following amounts: 1000 million pesetas in 1998, 1300 million pesetas in 1999 and 1430 million pesetas in 2000. Indemnities of up to 15 pesetas per litre are granted for disposal undertakings.

The other Member States indicated that no indemnities are granted to undertakings that collect or dispose of waste oils.

**Germany** specified that no subsidies have been paid up to now to undertakings which dispose of waste oil. At the same time as amending the Waste Oils Regulation it is intended to adopt Support Guidelines providing for the payment during the period up to 2007 of subsidies to undertakings which regenerate base oil from waste oil covering their losses in the previous year, with a limit of DM 50 per tonne of regenerated waste oil. The support would be digressive according to the quantities of oil regenerated in a given plant. The full amount of DM 50 would be paid for a maximum of 3 000 tonnes per plant in 2001, and in subsequent years this amount would be reduced by DM 5 each year. Germany also indicated that the Support Guidelines were notified to the Commission and approved by the Commission as State aid.

The **Netherlands** replied that no indemnities were granted, but that a maximum charge for the collection of waste oil is set on a monthly basis. This maximum price is calculated on the basis of the processing costs and the revenue generated by the resulting products. The maximum price applies to collection and processing. Separation of the prices for collection and processing is not possible, as the collectors also perform part of the processing.

- Indemnities, in one form or another, apply in only 3 Member States (Finland, France, Spain). Some financial incentives may also be granted in Greece.

## Annex II

Council Directive 75/439 on waste oils

**1998-2000**

Tonne/year	Austria			Belgium			Denmark			Finland		
	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Year	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Total oil marketed/sold where available	100,500	97,300	103,100	110,223	120,870	107,116	72,530	68,835	64,276	94,000	92,000	89,000
Total waste oils generated, of which:	43,975	44,100	43,000	56,912	35,523	n.a.	0	0	0	47,000	46,000	44,500
Quantity collected	37,700	37,700	32,600	56,912	35,523	n.a.	0	34646	28689	41,800	37,900	41,700
Quantity regenerated	154	66	308	500	500	n.a.	0	0	0	2,600	3,200	2,900
Quantity combusted	40,300	39,000	39,600	56,886	35,523	n.a.	21,703	15,307	17,344	39,200	34,700	38,800
Quantity tipped (including permanent storage)	0	0	0	0	0	n.a.	0	0	0	0	0	0
Comment		1)	2)	3)			4)					

**Table 1.** Treatment and handling of oil (tonne/year), (Questionnaire, Paragraph II, Question 1 c), continues.

The table presents a picture of the yearly amount of waste oils generated and of the amounts collected. Furthermore, the table shows how much of the collected amount of waste oils is respectively regenerated, combusted and tipped.

Notes:

- 1) 556.5 t were exported for thermal recovery.
- 2) For thermal recovery: 724.9 t exported.
- 3) The quantities given are extrapolated values based on the data reported annually by Flemish firms to OVAM. Quantity regenerated is an estimate
- 4) No information on total and collected quantities of waste oils

Council Directive 75/439 on waste oils

**1998-2000**

Tonne/year	France			Germany			Greece			Ireland		
	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Year	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Total oil marketed/sold where available	732,655	717,920	711,000	1,146,800	1,159,900	1,122,300	75,590	70,006	78,865	31,102	32,408	35,317
Total waste oils generated, of which:	383,000	367,500	361,500	0	0	0	60,000	60,000	60,000	15,551	16,204	17,658
Quantity collected	305,000	302,000	295,000	482,000	473,000	471,000	39,578	37,872	40,428	15,017	11,485	15,925
Quantity regenerated	100,110	93,705	91,386	279,000	260,000	280,000	13,105	12,890	14,479	0	0	0
Quantity combusted	201,933	208,416	195,071	203,000	213,000	191,000	15,890	15,309	17,372	12,829	11,331	13,717
Quantity tipped (including permanent storage)	302,043	302,121	286,457	0	0	0	0	0	0	0	0	0
Comment			5)	6)	7)	8)	9)	10)	11)	12)		

**Table 1** (continued). Treatment and handling of oil (tonne/year), (Questionnaire, Paragraph II, Question 1 c) , continues.

The table presents a picture of the yearly amount of waste oils generated and of the amounts collected. Furthermore, the table shows how much of the collected amount of waste oils is respectively regenerated, combusted and tipped.

Notes:

- (1) The quantity marketed is an estimate
- (2) No statistics were collected on the total quantity of waste oil produced. A total of 806 200 tonnes was theoretically collectable.
- (3) No statistics were collected on the total quantity of waste oil produced. A total of 754 800 tonnes was theoretically collectable.
- (4) The quantities of waste oil were estimated on the basis of statistics on sales of lubricant and products of waste oil recovery.
- (5) Quantity re-used after purification without regeneration: 8451. Quantity disposed of without control: 2132
- (6) Quantity re-used after purification without regeneration: 7367. Quantity disposed of without control: 2306
- (7) Quantity re-used after purification without regeneration: 6072. Quantity disposed of without control: 2235
- (8) Estimated total waste oils generated is equal to 50% of quantity marketed

Council Directive 75/439 on waste oils

**1998-2000**

Tonne/year	Italy			Luxembourg			Netherlands			Portugal		
	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Year	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Total oil marketed/sold where available	639,000	635,000	648,000	0	0	0	139,000	136,000	133,000	118,057	115,937	114,836
Total waste oils generated, of which:	0	0	0	4,600	4,791	4,594	96,000	93,000	91,000	0	0	0
Quantity collected	184,825	188,972	187,228	4,600	4,791	4,564	87,000	86,000	84,000	53,713	55,807	52,403
Quantity regenerated	162,820	159,816	166,773	4,600	4,791	4,564	13,000	27,000	25,000	0	0	0
Quantity combusted	12,022	19,064	21,799	0	0	0	64,000	59,000	59,000	53,713	55,807	52,403
Quantity tipped (including permanent storage)	0	0	0	0	0	0	0	0	0	0	0	0
Comment	13)	14)	15)	16)								

**Table 1** (continued). Treatment and handling of oil (tonne/year), (Questionnaire, Paragraph II, Question 1 c), continues.

The table presents a picture of the yearly amount of waste oils generated and of the amounts collected. Furthermore, the table shows how much of the collected amount of waste oils is respectively regenerated, combusted and tipped.

Notes:

- (1) Combusted: including 1235 t/y
- (2) Combusted: including 1128 t/y
- (3) Combusted: incl 821 "incinerated"
- (4) Total quantity of marketed oils not available

Council Directive 75/439 on waste oils

**1998-2000**

Tonne/year	Spain			Sweden			UK		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Total oil marketed/sold where available	434,600	448,300	439,300	175,000	175,000	180,000	812,738	789,747	803,644
Total waste oils generated, of which:	173,800	179,300	175,700	87,500	87,500	90,000	447,006	434,361	442,004
Quantity collected	173,490	192,020	191,533	80,000	80,000	80,000	384,149	379,354	358,639
Quantity regenerated	34,698	27,232	30,463	0	27	0	4,000	4,000	0
Quantity combusted	138,793	165,188	158,070	65,000	65,000	65,000	380,149	375,354	358,639
Quantity tipped (including permanent storage)	0	0	0	0	0	0	62,857	55,007	83,365
Comment	17)	18)	19)	20)					

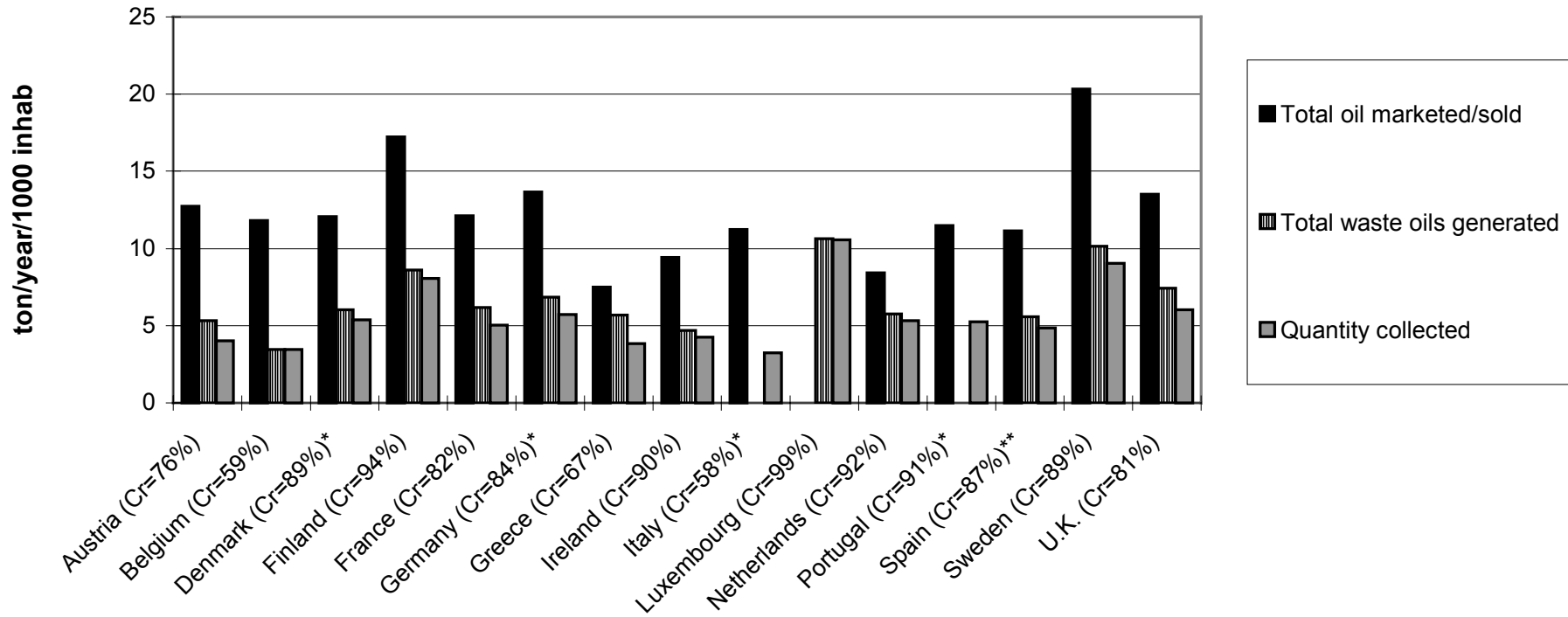
**Table 1** (continued). Treatment and handling of oil (tonne/year), (Questionnaire, Paragraph II, Question 1 c).

The table presents a picture of the yearly amount of waste oils generated and of the amounts collected. Furthermore, the table shows how much of the collected amount of waste oils is respectively regenerated, combusted and tipped.

Notes:

- (1) The regeneration figure includes 3 470 tonnes of recycled oil.
- (2) The regeneration figure includes 2 884 tonnes of recycled oil.
- (3) The regeneration figure includes 2 973 tonnes of recycled oil.
- (4) Quantity of waste arising and of processed waste estimated. Quantity delivered based on product statistics. Reported as quantity of waste oil, not as quantity of oil.

### Directive 75/439 - waste oil per 1000 inhabitants 2000



Cr = Collection rate

\* Total waste oils generated = 50% of Total oil marketed/sold

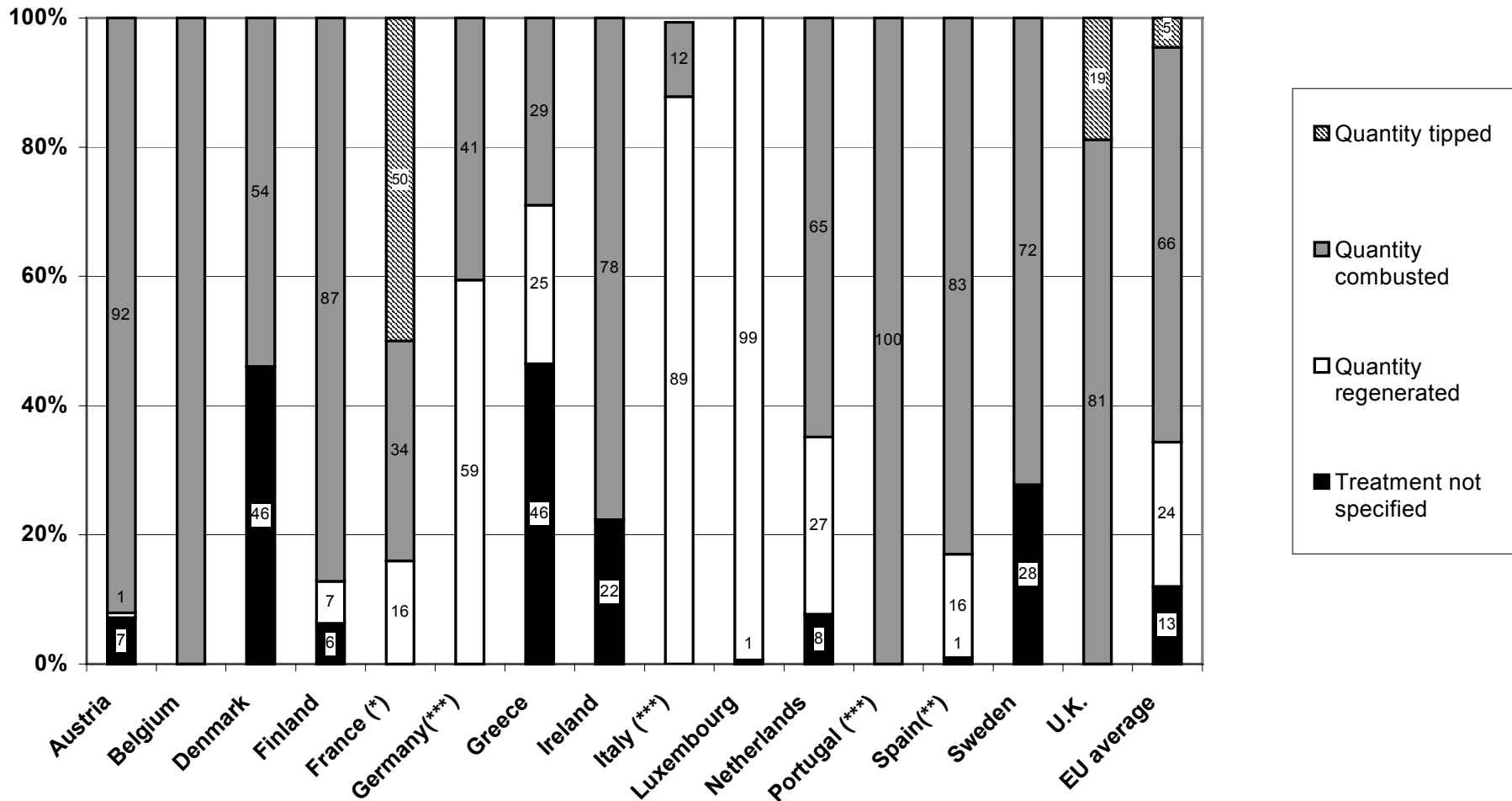
\*\* Spain reported more waste oils collected than generated - in this figure total waste oils generated = 50% of Total oil marketed/sold

Data for Belgium are from 1999

**Figure 1.** Quantities of oils marketed and waste oils generated and collected in 2000 per 1000 inhabitants.



**Directive 75/439 - Treatment of Waste Oils - 2000**  
**% of total generated waste oils**



(\*) % of sum of the three treatment categories. The reported figures exceed the amount of total generated waste oils  
 (\*\*) % of collected waste oils. The amount of collected waste oils exceeds the amount of total generated waste oils.  
 (\*\*\*) % of collected waste oils.  
 Data for Belgium are from 1999

**Figure 2.** Percentages of waste oils management.


Council Directive 75/439 on waste oils

**1998-2000**

Member State	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	UK
Number of authorities	N1=9		N5=276	N3=13	N3=100	N1=15 N2=14 N3=158		N4=4	N1=2	N0=1	N0=1 N2=12	N1=6 N2=7	N2=19	N3=21	N1=4
Permitting system established (yes/no)	Yes		No	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Waste oils only</b> -Total No of undertakings registered/ permitted;	10		-	3	29	-		3	-	1	N0=4	-	66	70	-
<b>Waste oils and other waste</b> Total No of undertakings registered/ permitted;			-	44	23	N1=676 N2=472 N3=1904 Total=3052		-	70	21	N0=2 N2=22	N1=4 N2=30	13		73,056
Comments	1)		2)	estimated		3)			4)		5)		6)	7)	8)

**Table 2.** Undertakings collecting waste oil (Questionnaire, Paragraph II, Question 4)

This table shows how many undertakings that each Member State has registered/permitted to collect waste oils, whether an actual permitting system has been established and the level and number of authorities responsible for the registration/permission.

 Data not received

Notes:

N is a shortening for NUTS. N1:4 for example, means that the authority NUTS level 1 gives 4 permits or undertaking registers.

(1) NUTS 2/121/780 undertakings

- (2) Waste oil is collected through registered private companies or under municipal collection schemes. We have no information on the number of registered private collectors.
- (3) Separate statistics were not collected on the number of registered and licensed undertakings which only collect waste oil.
- (4) NUTS level is not stated. Total number of undertakings registered/permitted is estimated.
- (5) N1: The collection of waste oil in quantities/packaging of more than 200 litres requires a permit from the Minister
- (6) The waste collection sector is constantly changing.
- (7) Permit required for transport, interim storage (R13, D15) and processing of hazardous waste. Inspection is carried out by the county administration or municipality, 21 + 298 authorities.
- (8) Average per year. England & Wales only

# DIRECTIVE 86/278/EEC ON SEWAGE SLUDGE

## 1. INTRODUCTION

Directive 86/278/EEC<sup>128</sup> *on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture* regulates sewage sludge use in such a way as to prevent harmful effects on soil, vegetation, animals and man. It also aims at encouraging a sound reuse of sludge in agriculture.

In particular, the main provisions of Directive 86/278/EEC are:

- definitions of ‘sludge’ (sewage sludge, septic tank sludge and other sludges), ‘treatment’ (biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use) and ‘use’ (spreading of sludge on the soil or any other application of sludge on and in the soil) (Article 2);
- values for concentrations of heavy metals in soil and sludge and maximum annual quantities of heavy metals that can be introduced into the soil (Article 4);
- heavy metal concentrations in soils may not be exceeded (Article 5);
- sludge has to be treated (Article 6);
- sludge may not be applied to certain cultures and after a certain period has elapsed (Article 7);
- the use of sludge has to take into account crop needs (Article 8);
- methods for the sampling and analysis of soil and sludge (Article 9);
- the obligation for Member States to keep up-to-date records on sludge production, quantities used in agriculture, location of parcels and other information (Article 10);
- reporting requirements (Article 17).

Article 17 of the Directive stipulates that Member States have to draw up every four years, and for the first time five years after the notification of the Directive, a consolidated report on the use of sludge in agriculture.

The Directive having been notified on 17 June 1986, Member States had to draw up their first report, covering the years 1987-1990, by 17 June 1991. Six Member States, namely Belgium, Denmark, Germany, Spain, France and the United Kingdom, submitted their reports in 1991/92. The Commission did not consider it worthwhile publishing such an incomplete and highly disparate information with no uniform format.

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<sup>128</sup> OJ L 181, 4.7.86, p. 6.

A second report pursuant to Article 17 of the Directive 86/278/EEC, covering the years 1991-1994, should have been submitted by 17 June 1995. Five Member States, namely Belgium, Spain, France, Portugal and the United Kingdom, submitted reports. The Commission published a consolidated report<sup>129</sup> on 27 February 1997.

Article 5 of Council Directive 91/692/EEC<sup>130</sup> *standardising and rationalising reports on the implementation of certain Directives relating to the environment* has modified Article 17 of Directive 86/278/EEC. Member States are now asked to draw up a report every three years, and the first report shall cover the period 1995-1997. Commission Decision 94/741/EC of 24 October 1994, pursuant to Article 6 of Directive 91/692/EEC, has established the format of a questionnaire to be followed by Member States when reporting to the Commission. The same format is followed in this consolidated report.

A third report pursuant to Article 17 of the Directive 86/278/EEC as amended, covering the years 1995-1997, was published by the Commission on 10 January 2000<sup>131</sup>. It contained information about eleven Member States, as **Greece**, **Italy**, the **Netherlands** and **Spain** did not send their reports on time.

The present report covers the period 1998-2000. Although sometimes with long delays, all 15 Member States have answered the questionnaire. The Commission is pleased that, for the first time since the adoption of Directive 86/278/EEC and the enlargement of the EU to include Austria, Finland and Sweden, it can publish a report about the implementation of the Directive covering the whole EU.

## 2. INCORPORATION INTO NATIONAL LAW

The previous consolidated report, relative to the period 1995-1997, did not mention any outstanding cases of incomplete or incorrect transposition of the Directive by Member States. However, it indicated that the assessment of compliance of the transposing measures for the three new Member States (Austria, Finland and Sweden) had not yet been completed. This work has now come to an end and has brought the Commission to open an infringement procedure against **Austria** for incomplete/incorrect transposition of the Directive in a number of *Länder*.

The non-communication or incomplete communication of data relative to the period 1995-1997 from **Ireland**, **Italy**, **Portugal** and **Sweden** as well as some problems of incorrect transposition in Ireland and Sweden led the Commission to open infringement procedures against these Member States. The cases against Ireland, Portugal and Sweden could be settled to the satisfaction of the Commission, as the Member States concerned sent supplementary information and/or amended their legislation.

The Commission also opened an infringement procedure against **Belgium** concerning the incorrect transposition of the concentration limits in soil for mercury and zinc in Flanders. In 2001, Belgium notified an amendment of its Decree establishing the Flemish Regulations for waste prevention and management (VLAREA) originally adopted on 17 December 1997. With this Decree, adopted on 9 February 2001, the permissible

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<sup>129</sup> COM (97) 23 final.

<sup>130</sup> OJ L 377, 31.12.91, p.48.

<sup>131</sup> COM(1999) 752 final.

concentrations of metals in the standard soil has been amended and brought in line with the Directive. The Commission has therefore withdrawn its application to the European Court of Justice against Belgium.

By December 2002, infringement cases were being pursued concerning Italy (non-compliance with Articles 10 and 17 of the Directive) and Austria (incomplete or incorrect transposition in Carinthia, Salzburg, Styria, Upper Austria and Voralberg). An action was brought before the Court in the Italian case<sup>132</sup>.

### **3. IMPLEMENTATION OF THE DIRECTIVE**

#### **3.1. Specific conditions when sludge from septic tanks and other similar installations is used – Article 3(2)**

*According to Article 3(2) residual sludge from septic tanks and other similar installations may be used in agriculture subject to any conditions that the Member States concerned may deem necessary for the protection of human health and the environment.*

In **Austria** conditions vary according to the different *Länder*. The spreading of septic tank sludge is not allowed in Carinthia, Tyrol and Vienna. It is subject to detailed provisions in Lower Austria, Upper Austria, Voralberg and Styria.

In **Belgium** the Wallonia Region requires that the use in agriculture of septic tank sludge match crop needs. There is a limit of 400 kg of nitrogen per hectare per year and a specific provision according to which only one third of the total available surface of a given farmer can be treated with septic tank sludge. No more than 20 000 litres of septic sludge can be spread per hectare per year. The Flemish Region has not given any information on this point.

In **Finland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden** and the **United Kingdom** septic tank sludge is subject to the same provisions as sewage sludge.

In **Denmark** and **Germany** septic tank sludge has to be delivered to a waste water treatment plant for further processing and cannot be used as such in agriculture.

In **Greece** septic tank sludge is currently not used for agricultural purposes.

In **France** septic tank sludge has to be worked into the soil immediately after being spread on land or sanitised beforehand.

In **Ireland** septic tank sludge may be used on grassland provided that the grassland is not grazed in the following six months. In any event, it has to be injected or otherwise worked into land.

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<sup>132</sup> C-248/02.

### 3.2. Concentration limit values for heavy metals in soil, sludge and maximum annual loads – Article 5

*Member States must prohibit the use of sludge where the concentration of heavy metals in the soil exceeds the limit values in Annex I A (Article 5(1)). In addition Member States have to lay down maximum quantities of sludge and limit values for heavy metals in the sludge in accordance with Annex I B (Article 5(2a)). They have also to ensure observance of the limit values given in Annex I C for the quantities of metals introduced into the soil per unit of area and unit of time (Article 5(2)(b)).*

Tables 1 to 3 present the concentration limit values set by Member States in accordance with Annexes I A, I B and I C of the Directive.

In **Finland** the concentration in sludge and the annual load of copper and zinc can be doubled if there is a need to supplement these elements to the soil. In any event, the maximum soil concentrations cannot be exceeded.

In **Italy** there is no limit for chromium in soils. Before spreading sludge it is necessary to carry out a quick oxidising test (Bartlett and James) to assess whether the soil has oxidising capacity from Cr(III) to Cr(VI). If the result is an oxidising capacity higher than 1µM, sludge cannot be spread on that soil.

In the **Netherlands** the soil limits are a function of humus and lutum content of the soil itself (see Table 1).

In **Sweden** the maximum annual load is calculated over a seven-year period.

### 3.3. As regards Annex 1B and the maximum quantities of sludge (dry matter) applicable to soil – Article 5 (2)(a)

In **Austria** the maximum quantities applicable vary in the different *Länder*: in Lower Austria it is 2.5 t/ha/y; in Upper Austria 10 t/ha on a three-year period; in Styria 1.25 t/ha/y to grassland and 2.5 t/ha/y on arable land (these amount can be doubled if no sewage sludge was applied during the previous year); in Voralberg the limit is based on P<sub>2</sub>O<sub>5</sub> (no more than 160 kg every second year).

In **Belgium** the Wallonia Region determines the maximum quantities according to a formula which weighs the actual heavy metal concentration in sludge against the permissible values. On a three-year period the maximum allowable quantity is 6 tonnes per hectare on grassland and 12 tonnes per hectare on arable land. In the Flemish Region application of sewage sludge is limited to 4 tonnes every two years for arable land and 2 tonnes every two years for grazing land.

In **Denmark** 7 tonnes of sludge may be applied per hectare per year.

In **Germany** up to 5 tonnes per hectare in a three-year period may be used.

In **Italy** the maximum quantity is 15 tonnes per hectare every three years.

In **Ireland** 2 tonnes per hectare per year may be applied to agricultural land.

In **Luxembourg** 3 tonnes per hectare per year may be used in agriculture.

In the **Netherlands** liquid sewage sludge can be used at a maximum dosage of 2 tonnes of dry matter per hectare per year on arable or maize land. For grassland the dosage is 1 ton dry matter per year. In case of solid sludge, double quantities apply for spreading once every two years.

In **Portugal** 6 tonnes per hectare per year is in principle the maximum allowed quantity of sludge that may be used in agriculture although lower heavy metal permit to increase this amount.

**Greece, Finland, France, Spain, Sweden** and the **United Kingdom** have opted for Article 5(2)(b), i.e. for fixing maximum annual load on a ten year average (seven years in Sweden).

### **3.4. Less stringent limit values for concentrations of heavy metals permitted on land for growing crops intended exclusively for animal consumption – Annex IA, footnote 1**

**Austria** did not submit any information on this point.

Less stringent values are not permitted in **Belgium, in Denmark, in Greece, in Finland, in France, in Germany, in Italy, in Ireland, in Luxembourg, the Netherlands, Spain** and in **Sweden**.

In **Portugal** the limits for soils with a pH higher then 7 in which commercial crops are grown for animal consumption are those provided for in Table 1 of this report.

The **United Kingdom** reports 10 sites where the normal limits for all metals may be exceeded in accordance with Annex I A, footnote 1. It is generally land adjoining waste water treatment plants which was once used as a sewage farm. The total surface area of this sites (estimated) is 2 516 hectares.

### **3.5. Less stringent limit values for concentrations of heavy metals permitted in soils with a pH higher than 7 – Annex I A, footnote 2**

**Austria** did not submit any information on this point.

Less stringent values are not permitted in **Belgium, Denmark, Greece, France, Finland, Germany, Ireland, Luxembourg, the Netherlands** and **Sweden**.

In **Portugal, Spain** and the **United Kingdom** the limits for soils with a pH higher then 7 are those provided for in Table 1 of this report (only for soils on which commercial crops are grown for animal consumption in Portugal).

### **3.6. Less stringent limit values for the annual quantities of heavy metals introduced into the soils intended for fodder crops – Annex I C, footnote 1**

**Austria** did not submit any information on this point.

Less stringent values are not permitted in **Belgium, Denmark, Greece, Finland, France, Germany, Italy, Ireland, Luxembourg, the Netherlands, Portugal, Spain** and **Sweden**.



The **United Kingdom** reports 10 sites where the normal limits for all metals may be exceeded in accordance with Annex I C, footnote 1. It is generally land adjoining waste water treatment plants which was once used as a sewage farm. The total surface area of this sites (estimated) is 2 516 hectares.

### 3.7. Description of the technologies employed for treating sludge – Article 6

*According to Article 6 (without prejudice to Article 7) sludge shall be treated before being used in agriculture. Member States may nevertheless authorise, under conditions to be laid down by them, the use of untreated sludge if it is injected or worked into the soil.*

In **Austria** the treatments applied are simultaneous stabilisation, separate anaerobic stabilisation and aerobic stabilisation (not heated), mesophilic anaerobic and aerobic stabilisation, thermophilic aerobic stabilisation, liming composting and drying.

In the Wallonia Region of **Belgium** sludge is digested, aerobically stabilised, mechanically dried, thermally dried or conditioned with lime or polyelectrolites. In the Flemish Region the following technologies are employed: aerobic stabilisation, mesophilic anaerobic stabilisation, cold fermentation, thermal drying, and lime stabilisation.

In **Denmark** the following technologies are employed for treating sludge: stabilisation (anaerobic stabilisation by fermentation in heated digester or treatment in a bioreactor; aerobic stabilisation by sludge aeration and composting under conditions where the temperature is not controlled; chemical treatment by addition of lime), controlled composting (composting with daily measurement of temperature so that all material is subject to a temperature of 55°C as a minimum for two weeks), and controlled sanitisation (treatment in reactor which ensures a temperature of 70°C as a minimum for one hour).

In **Greece** only small quantities of sludge have been used in agriculture so far. Research programmes concerning the treatment of sludge and its use in agriculture are being conducted in various areas of the country. Methods for sludge treatments are being examined in these research programmes.

In **Finland** sludge undergoes anaerobic digestion, is stabilised by aeration or lime conditioning, or it is composted.

In **France** sludge is subject to prolonged aeration, aerobic or anaerobic stabilisation, lime conditioning, composting, or thermal drying.

In **Germany** different technologies are applied such as anaerobic digestion, aerobic stabilisation, lime conditioning, etc. Normally a combination of these techniques is used for sludge treatment.

In **Italy** the most common treatments are aerobic digestion (including composting), anaerobic digestion, mechanical dewatering, thermal drying, chemical treatment with alkali. Aerobic digestion is normally carried out on small sized plants up to 50,000 population equivalent (p.e.), while anaerobic digestion is for plants bigger than 50,000 p.e.

In **Ireland** sludge is either dewatered on filter tables and stored for 6 months, or undergoes anaerobic digestion.

In **Luxembourg** sludge is digested and then conditioned with lime or iron salts. Mechanical devices are used for dewatering. Polyelectrolites are added to sludge which is not conditioned with lime in order to facilitate dewatering.

In the **Netherlands** sewage sludge must be treated by biological, chemical or thermal means, by long-term storage or any other suitable methods which has killed off most of the pathogenic organisms in the sludge.

In **Portugal** the technologies employed are drying beds (drainage on sand beds and evaporation of humidity), thickening, mechanical dehydration (band filters, filter presses, vacuum filters or centrifugal machines) and various stabilisation processes.

In **Spain** anaerobic digestion, long-term storage and composting are the most widely used techniques.

In **Sweden** the following techniques are used: thickening (gravity thickening, flotation), stabilisation (anaerobic, aerobic, lime), conditioning, dewatering (centrifuge, filter belt press, air drying), thermal drying and composting.

In the **United Kingdom** the technologies employed are mesophilic and thermophilic anaerobic digestion, composting, lime stabilisation, liquid storage, dewatering and storage, thermal drying.

### **3.8. As regards the frequency of analysis – Annex II A, paragraph 1:**

*According to Article 6(b) sewage sludge producers shall regularly provide users with all the information referred to in Annex II A (sludge analysis)*

In **Austria** the frequency of analysis depends on the Land. It is linked to the size of the treatment plant and varies from every two months for plants treating more than 30,000 p.e. in Styria to every three years for plants up to 500 p.e. in Carinthia.

In the Wallonia Region of **Belgium** the frequency of analysis is linked to the size of the treatment plant, i.e. one analysis per year for a plant treating less than 5 000 population equivalent (p.e.), up to one analysis per month for plants larger than 100 000 p.e. In the Flemish Region four analyses per year have to be carried out.

In **Denmark, Greece, Ireland, Portugal, Spain** and the **United Kingdom** the same requirements as in the Directive apply.

In **Finland** the frequency of analysis is linked to the size of the treatment plant, i.e. one analysis per year for a plant treating less than 200 p.e., up to one analysis per month for plants larger than 100 000 p.e. These frequencies can be relaxed when the quality of the incoming water does not change in time.

In **France** the frequency of analysis varies from twice a year for small plants to once a week for the biggest plants.

In **Germany** the same frequency of the Directive applies although in single cases the frequency can be up to six times a year.

In **Italy** the frequency is increased to every three months if the treatment plant is bigger than 100,000 p.e.

In **Luxembourg** the frequency varies from once a year for small plants (less than 5 000 p.e.) up to six times a year for the biggest plants (more than 50 000 p.e.).

In the **Netherlands** the sampling frequency is at least four times per year. Depending on the variation in the composition of the sludge produced, the frequency may be up to twice a week and the samples may be combined over a four-week period, so the effective sampling frequency can be 12 times per year.

In **Sweden** the frequency depends on the size of the waste water treatment plant, varying from once a year for plants treating 200 to 2 000 p.e. up to once a month for plants treating more than 20 000 p.e.

### **3.9. As regards specific conditions for authorising injection or working into the soil of untreated sludge – Article 6(a)**

In **Austria** injection of untreated sludge is only allowed in Carinthia, elsewhere untreated sludge cannot be used on land.

In the Wallonia Region of **Belgium** untreated sludge has to be directly incorporated into the soil after spreading. Treated sludge must be incorporated within 24 hours. In the Flemish Region this practice is prohibited.

There are no specific rules in **Ireland** and in the **United Kingdom**.

In **Denmark, Finland, Germany, Italy, Luxembourg, the Netherlands** and **Spain** it is forbidden to spread untreated sludge on land.

In **Greece** existing legislation allows the competent prefectural directorate of the Ministry of Agriculture to issue a recommendation to the Prefect for the granting of a permit for the use of untreated sludge provided that the sludge will be injected or worked into the soil. The conditions governing the use of the sludge are laid down in the permit.

In **France** only septic tank sludge and sludge coming from small waste water plants (treating less than 120 kg BOD<sub>5</sub> per day) can be spread on land untreated. There is the obligation of immediate ploughing down.

In **Portugal** a specific joint authorisation from the Agriculture and Environment Ministries is required for injection or working into the soil of raw sludge.

In **Sweden** untreated sludge can be used as long as it is worked into the soil within a maximum of 24 hours after being spread and its use does not cause a nuisance to local residents.

### 3.10. Periods of prohibition of spreading before grazing or harvesting – Article 7

*According to Article 7 Member States shall prohibit the use of sludge on grassland or forage crops at least three weeks before grazing or harvesting, on soil in which fruit and vegetable crops are growing (except fruit trees) and ten months preceding the harvest on grounds where fruits or vegetable grow in direct contact with the soil and which are eaten raw.*

In **Austria** the rules vary in the different Länder and are generally stricter than those provided for by the Directive. In Upper Austria the use of sewage sludge is prohibited on pastures, grassland, mountain pastures, Alpine soils and field fodder crops.

In the Wallonia and Flemish Regions of **Belgium** six weeks have to elapse before allowing grazing on grassland or harvesting of animal forage crops. In Wallonia it is forbidden to spread sludge in forests and in nature protection areas.

In **Denmark** the period during which it is prohibited to use sludge on grassland before it is grazed and on forage crops before harvest is one year.

**Greece** did not submit any information on this point.

In **Finland** five years have to elapse before potatoes, root crops and vegetables can be grown on sludge-treated land. Sludge may be used only on soil on which grain, sugar beet, oil-bearing crops or crops not used for human or animal consumption are cultivated.

In **France** the delay is six weeks – reduced to three for sanitised sludge, i.e. sludge treated in such a way that pathogenic micro-organisms cannot be detected.

In **Germany** sludge cannot be used on meadows and pastures (permanent grassland). Sewage sludge can only be used on arable land and it has to be carefully ploughed in before sowing forage crops, green maize and silage maize.

In **Italy** the delay is five weeks.

In **Ireland, Portugal, the Netherlands, Spain** and the **United Kingdom** the same minimal provisions of the Directive, i.e. three weeks before grazing or harvesting, apply.

In **Luxembourg** the delay is one month.

In **Sweden** the length of the period is 10 months.

### 3.11. Limit values or other measures for soils with a pH below 6 – Article 8

*According to Article 8 Member States shall take into account the increased mobility and availability to the crop of heavy metals and shall, if necessary, reduce the limit values in accordance with Annex I A, where sludge is used on soils of which the pH is below 6.*

In **Austria** there are reduced concentration limits in Carinthia for cadmium (0.5 mg/kg dry matter), chromium (50 mg/kg dry matter), copper (40 mg/kg dry matter), mercury (0.2 mg/kg dry matter), lead (50 mg/kg dry matter) and zinc (100 mg/kg dry matter), and in Upper Austria for zinc (150 mg/kg dry matter). In Tyrol for soils with a pH below 6, the permitted heavy metal contents are reduced to 50% of the permitted limit values.

In the Wallonia Region of **Belgium** it is prohibited to spread sludge on soils with a pH below 6. In the Flemish Region treated sludge may be spread on cropland only if the soil pH is higher than 5. In addition, the limit values for heavy metals are stricter than in Annex IA of the Directive.

There are no specific rules in **Denmark, Greece, the Netherlands, Spain and Sweden**.

Since the pH value of cultivated Finnish soils is normally below 6.0, in **Finland** the limit values for heavy metal concentrations in soil are more stringent than those laid down in Annex IA of the Directive. In addition, sludge may only be used on soils with a pH value above 5.8 or 5.5 in case of use of lime-stabilised sludge.

In **France** there is a reduced annual load for cadmium (15 g/ha/y), chromium (1 200 g/ha/y), copper (1 200 g/ha/y), mercury (12 g/ha/y), lead (900 g/ha/y) and zinc (3 000 g/ha/y) on soils with a pH between 5 and 6.

In **Germany** there are reduced concentration limits for cadmium (1 mg/kg dry matter) and zinc (150 mg/kg dry matter) for soils with a pH between 5 and 6. Sludge cannot be spread on soils with a pH below 5.

In **Italy** the quantity of sludge applied to the soil are halved if the soil pH is below 6 and the cation exchange capacity is lower than 15 meq/cm.

In **Ireland** when the pH is lower than 6 it has to be paid attention to increased heavy metal mobility.

In **Luxembourg** if the pH of the soil is below 6 the pH of sludge must be consistently above 7. In general sludge conditioned with lime is used in these cases (pH higher than 12).

In **Portugal** reduced limits apply when the pH is below 5.5 (see Table 1 in this report).

In the **United Kingdom** reduced concentration limits for copper, nickel and zinc are adopted in order to take account of the increased mobility of these heavy metals when the pH decreases (see Table 1 in this report).

### **3.12. Soil analyses for other parameters than pH and heavy metals – Annex II B, paragraph 1**

*According to Article 9 soil on which sludge is used shall be analysed as outlined in Annex II B. Member States must first ensure that the heavy metal content of the soil does not exceed the limit value. Therefore they have to decide what analyses to carry out, on the frequency of analyses and on the parameters (pH and heavy metals are obligatory).*

In the Wallonia Region of **Belgium, Denmark, Greece, Finland, France, Ireland, Luxembourg, Spain, Sweden** and the **United Kingdom** only pH and heavy metals have to be analysed.

In certain Länder in **Austria** soil analyses include parameters such as organic matter, magnesium, carbonates, calcium requirement, CEC (cation exchange capacity), iron, manganese, water content. In specific cases, also analysis of polycyclic aromatic hydrocarbons, polychlorinated biphenyls and chlorinated hydrocarbons are also required.

In the Flemish Region of **Belgium** soil is additionally analysed for dry matter, organic matter, nitrogen, phosphate, total halogenated organic compounds and mineral oil. The competent authority may decide on further analyses relating to monocyclic aromatic hydrocarbons, polycyclic aromatic hydrocarbons and other organic substances.

In **Germany** available phosphate, potassium and magnesium have to be analysed as well.

In **Italy** also the soil cation exchange capacity has to be measured.

In the **Netherlands** arsenic is also measured.

In **Portugal** nitrogen and phosphorous have to be analysed as well.

### **3.13. As regards the minimum frequency of soil analysis – Annex II B, paragraph 2**

In **Austria** the frequency of analysis of the soil is every ten years (or when more than 15 t dry matter have been used) in Burgerland and Upper Austria; five or ten years (depending on individual parameters) in Lower Austria; four years in Styria; every three application of sludge in Tyrol; every ten years in Carinthia.

Every three years in Italy; every six years in the **Netherlands**, every ten years in the Wallonia Region of **Belgium**, in **Ireland**, in **France** and in **Germany**; every twenty years in the **United Kingdom**; when 20 tonnes of dry matter are spread per hectare in the Flemish Region.

**Denmark** did not submit any information on this point.

There is no specific minimum frequency in **Finland** – soils have to be analysed if there is reason to believe that limit values have been exceeded.

In **Luxembourg** soils have to be analysed prior to any sludge spreading operation.

In **Portugal** soils have to be analysed prior to each spreading of sewage sludge.

In **Spain** the frequency is determined by the Regional governments.

In **Sweden**, due to the fact that very few soils have concentrations at or close to the lower limits, soil analyses are carried out only if it is probable that the concentration of one or more heavy metals in the soil in question exceeds the limit values.

### **3.14. Quantities of sludge produced, sludge used in agriculture and average concentration of heavy metals in sludge – Article 10**

*Article 10 of the Directive requires that Member States keep up-to-date records which register, among other information, the quantities of sludge produced and the quantities supplied for use in agriculture as well as the concentrations of heavy metals and nutrients.*

Tables 5 and 6 and Figures 1 to 4 present the data received by the Commission. For completeness of information, Table 4 presents the data for the previous reporting period (1995-97).

### 3.15. Exemptions granted to small sewage treatment plants – Article 11

*According to Article 11 Member States may exempt sludge from sewage treatment plants with a treatment capacity corresponding to 5 000 person equivalents, which are designed primarily for the treatment of domestic waste water from Articles 6 (b), 10 (1)(b), (c), (d) and (2).*

No exemptions have been adopted in the Wallonia Region of **Belgium**, **Denmark**, **France**, **Portugal**, **Sweden** and the **United Kingdom**.

This point is not mentioned in the report of the Flemish Region, **Italy**, **Portugal** and **Spain**.

In **Finland** exemptions are made for waste water treatment plants with less than 5 000 p.e. Some 450 plants are concerned by this measure.

In **Germany** exemptions are made for waste water treatment plants with less than 1 000 p.e. There is no information on the number of these plants.

In **Ireland** there is a general exemption for plants below 5 000 p.e.

## 4. CONCLUSIONS

Directive 86/278/EEC has been transposed in all Member States in a generally correct manner, although some work needs to be done to guarantee a prompt and effective transmission of exhaustive data to the Commission. In certain Member States the fragmented competence at the administrative level does not help in getting a coherent picture of the amount of sludge produced and used in agriculture as well as its quality. Quantitative information on the implementation of the Directive is sent with long delays reaching in certain cases a year or more.

According to the data submitted to the Commission and presented in Tables 4 and 5 and considering only those Member States for which there is a complete time series between 1995 and 2000, the production of sludge was steady at about 4.3 million tonnes of dry matter per year.

The trend presented in Figure 5 shows a slight decline in sludge use in agriculture in the EU, from about 43% in 1995 to 37% in 2000. There are appreciable variations among the different Member States, in some of which the decline in sludge use is rather sharp and it would seem that this trend will continue also after 2000. The Commission considers that this decline in sludge use in agriculture in favour of incineration is contrary to the waste hierarchy.

As to quality (see Table 6), the average concentrations of heavy metals in sludge used in agriculture in the EU are well below the threshold limits set in Annex IB of the Directive. Although disparities still exist among the different Member States (not least because the analytical methods used may differ from one Member State to the other), the general trend is towards a slow but steady decrease in concentrations.

The Commission notes that on average in the EU a tonne of sludge (dry matter) contains between 30 to 40 kg of nitrogen and 20 to 30 kg of phosphorus. This alone represents a monetary value of about €30 per tonne of sludge dry matter used in agriculture.

The Commission is of the opinion that the conclusions drawn in the previous consolidated report<sup>133</sup> remain valid. In particular, the use of sewage sludge on agricultural soils as fertiliser is held as the best environmental option provided that it does not pose any threat to the environment as well as to animal and human health. Directive 86/278/EEC seeks to regulate the spreading on land of sewage sludge on agricultural soils in such a way as to prevent environmental drawbacks. Indeed, there are no reported cases of human, animal or crop contamination due to the use of sludge on agricultural soils following the provisions of the Directive. Although risk zero does not exist in human activities, it appears that the provisions of the Directive have been quite effective in preventing the spreading of pollution because of the use of sludge.

The Commission is of the opinion that a monitored and well-regulated land spreading of sludge should be encouraged and sustained. At the same time, rules should be strengthened, when necessary, especially taking into account long-term effects on soil quality.

Under this respect and in order to ensure consumers' confidence in the reuse of sludge on agricultural soils, the Commission has announced in its Communication "Towards a Thematic Strategy on Soil Protection"<sup>134</sup> that it plans to undertake a comprehensive review of the provisions contained in the Directive. These provisions will be assessed in the light of the scientific research carried out since the adoption of the Directive. This review will aim at ensuring a high level of environmental protection. The general public will be reassured about the fact that sludge reuse on agricultural soils – if carried out according to the rules of best practice and following the provisions of the Directive – does not present unacceptable risks for human health and the environment. Furthermore, the Commission will examine the need for clear and transparent criteria for analytical controls carried out on sludge used in agriculture, in order to avoid that contaminants are spread into the environment or recycled on crops for human consumption. The definition of sewage sludge will also be looked upon so that a coherent interpretation is adopted throughout all sectors of legislation. It is expected that the Commission will present a Proposal for the revision of Council Directive 86/278/EEC by the end of 2003.

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<sup>133</sup> COM(1999) 752 final.

<sup>134</sup> COM(2002) 179 final of 26 April 2002.



## **Annex III**

Directive 86/278/EEC on sewage sludge

**Table 1:** Concentration limit values for heavy metals **in soil** (mg/kg dry matter)

	86/278/EEC	A	B		D	DK	E		EL	F	FIN	I
	6<pH<7		Flanders	Wallonia			pH<7	pH>7				
<b>Cadmium (Cd)</b>	1 – 3	0.5 – 2	0.9	2	1.5	0.5	1	3	1 – 3	2	0.5	1.5
<b>Chromium (Cr)</b>	-	50 – 100	46	100	100	30	100	150	-	150	200	1µM Cr(VI)
<b>Copper (Cu)</b>	50 – 140	40 – 100	49	50	60	40	50	210	50 – 140	100	100	100
<b>Mercury (Hg)</b>	1 – 1.5	0.2 – 1.5	1.3	1	1	0.5	1	1.5	1 – 1.5	1	0.2	1
<b>Nickel (Ni)</b>	30 – 75	30 – 70	18	50	50	15	30	112	30 – 75	50	60	75
<b>Lead (Pb)</b>	50 – 300	50 – 100	56	100	100	40	50	300	50 – 300	100	60	100
<b>Zinc (Zn)</b>	150 – 300	100 – 300	170	200	200	100	150	450	150 – 300	300	150	300
			As 22									

	86/278/EEC	IRL	L	NL <sup>135</sup>	P			S	UK			
	6<pH<7				pH<5.5	5.5<pH<7	pH>7		5<pH<5.5	5.5<pH<6	6≤pH≤7	pH>7
<b>Cadmium (Cd)</b>	1 – 3	1	1 - 3	0.8	1	3	4	0.4	3	3	3	3
<b>Chromium (Cr)</b>	-	-	100 - 200	100	50	200	300	60	-	-	-	-
<b>Copper (Cu)</b>	50 – 140	50	50 - 140	36	50	100	200	40	80	100	135	200
<b>Mercury (Hg)</b>	1 - 1.5	1	1 - 1.5	0.3	1	1.5	2	0.3	1	1	1	1
<b>Nickel (Ni)</b>	30 – 75	30	30 - 75	35	30	75	110	30	50	60	75	110
<b>Lead (Pb)</b>	50 – 300	50	50 - 300	85	50	300	450	40	300	300	300	300
<b>Zinc (Zn)</b>	150 – 300	150	150 - 300	140	150	300	450	100 <sup>136</sup>	200	250	300	450

<sup>135</sup> The Dutch limit values are a calculation example. They are based on 10% organic matter = H and 25% lutum = L. The limit values in the soil are determined using a formula in which L = % lutum and H = % organic matter. In the calculation H is never higher than 15%. The values are calculated by the following formulas: Cd {0.4+0.007(L+3H)} mg/kg dry matter, Cu {15+0.6(L+3H)} mg/kg dry matter, Ni {10+L} mg/kg dry matter, Pb {50+L+H} mg/kg dry matter, Zn {50+1.5(2L+H)} mg/kg dry matter, Hg {0.2+0.0017(2L+H)} mg/kg dry matter, Cr {50+2L} mg/kg dry matter.

<sup>136</sup> The zinc concentration in arable land may reach 150 mg/kg dry matter in certain Swedish soils (Jämtland, Stockholm, Södermanland, Uppsala, Västernorrland and Västmanland counties).

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**Table 2:** Concentration limits for heavy metals **in sludge** (mg/kg dry matter)

	86/278/EEC	A	B		D	DK	E		EL	F
	Annex I B		Flanders	Wallonia			pH>7	pH<7		
<b>Cd</b>	20 – 40	0.7 – 10	6	10	10	0.8	20	40	20 – 40	20
<b>Cr</b>	-	50 – 500	250	500	900	100	1 000	1 500	Cr(III) 500 Cr(VI) 10	1 000
<b>Cu</b>	1000 – 1750	70 – 500	375	600	800	1 000	1 000	1 750	1 000 – 1 750	1 000
<b>Hg</b>	16 – 25	0.4 – 10	5	10	8	0.8	16	25	16 – 25	10
<b>Ni</b>	300 – 400	25 – 100	50	100	200	30	300	400	300 – 400	200
<b>Pb</b>	750 – 1200	45 – 500	300	500	900	120	750	1 200	750 – 1 200	800
<b>Zn</b>	2500 – 4000	200 – 2 000	900	2 000	2 500	4 000	2 500	4 000	2 500 – 4 000	3 000
			As 150							

	86/278/EEC	FIN	I	IRL	L	NL	P	S	UK
	Annex I B								
<b>Cd</b>	20 – 40	3	20	20	20 – 40	1.25	20	2	-
<b>Cr</b>	-	300	-	-	1 000 – 1 750	75	1 000	100	-
<b>Cu</b>	1000 – 1750	600	1 000	1 000	1 000 – 1 750	75	1 000	600	-
<b>Hg</b>	16 – 25	2	10	16	16 – 25	0.75	16	2.5	-
<b>Ni</b>	300 – 400	100	300	300	300 – 400	30	300	50	-
<b>Pb</b>	750 – 1200	150	750	750	750 – 1 200	100	750	100	-
<b>Zn</b>	2500 – 4000	1 500	2 500	2 500	2 500 – 4 000	300	2 500	800	-

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**Table 3:** Maximum annual average load of heavy metals to **agricultural land** (g/ha/y)

	86/278/EEC	A	B		D	DK	E	EL	F	
	Annex 1 C		Flanders	Wallonia					5<pH<6	6<pH<7
<b>Cd</b>	150	6 – 10	12	-	-	-	150	150	15	30
<b>Cr</b>	-	350 – 1 250	500	-	-	-	3 000	5	1 200	1 500
<b>Cu</b>	12 000	1 000 – 1 800	750	-	-	-	12 000	12 000	1 200	1 500
<b>Hg</b>	100	6 – 25	10	-	-	-	100	100	12	15
<b>Ni</b>	3 000	200 – 300	100	-	-	-	3 000	3 000	300	300
<b>Pb</b>	15 000	300 – 1 250	600	-	-	-	15 000	15 000	900	1 500
<b>Zn</b>	30 000	3 600 – 5 000	1 800	-	-	-	30 000	30 000	3 000	4 500
			As 300							

	86/278/EEC	FIN	I	IRL	L	NL	P	S <sup>137</sup>	UK
	Annex 1 C								
<b>Cd</b>	150	3	-	-	120	2.5	150	1.75	150
<b>Cr</b>	-	300	-	-	4 500	150	4 500	100	-
<b>Cu</b>	12000	600	-	-	5 250	150	12 000	600	7 500
<b>Hg</b>	100	2	-	-	75	1.5	100	2.5	100
<b>Ni</b>	3000	100	-	-	1 200	60	3 000	50	3 000
<b>Pb</b>	15000	150	-	-	3 600	200	15 000	100	15 000
<b>Zn</b>	30000	1 500	-	-	12 000	600	30 000	800	15 000

<sup>137</sup> Copper limit can be exceeded if the soil is copper deficient. New load limits as from 2002 (g/ha/y): Cd: 0.75, Cr: 40, Cu: 300, Hg: 1.5, Ni: 25, Pb: 25, Zn: 600.

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Table 4: Total sludge production and quantities used in agriculture in the reporting period 1995-1997<sup>138</sup>

Member State		Sludge produced (tonnes of dry matter)			Sludge used in agriculture (tonnes of dry matter)						Surface covered (hectares)		
		1995	1996	1997	1995	%	1996	%	1997	%	1995	1996	1997
A	Austria	390 000			45 000	12%					10 492	10 497	11 127
B	Wallonia Region	14 311	15 200	16 594	10 687	75%	12 230	81%	14 772	89%			
	Flemish Region	73 325	65 230	69 850	9 750	13%	17 860	27%	23 363	33%	1 625	2 680	3 900
D	Germany	2 248 647	2 215 820	2 227 609	940 932	42%	920 721	42%	909 547	41%			
DK	Denmark	166 584	161 717	151 159	109 369	67%	104 095	64%	94 250	62%	28 261 ha/ 3 years	27 393 ha/ 3 years	23 743 ha/ 3 years
E	Spain			685 669					314 329	46%			
EL	Greece	51 624		58 993									
F	France	750 000		820 000	494 000	66%			544 000	66%			
FIN	Finland	141 000	130 000	136 000	47 000	33%	49 000	38%	53 000	39%			
I	Italy						47 242		52 546			7 446	11 707
IRL	Ireland			38 290					4 174	11%			
L	Luxembourg												
NL	Netherlands(*)	220	242	209	30	14%	36	15%	27	13%			
P	Portugal	145 855 (estimate)	177 100 (estimate)	214 200 (estimate)	44 000 (estimate)	30%	53 130 (estimate)	30%	64 260 (estimate)	30%			
S	Sweden	230 000 (estimate)	230 000 (estimate)	230 000 (estimate)	67 800	29%	90 000 (estimate)	39%			16 000 ha/ year (0.6% of total cultivated area)	21 000 ha/year (0.8% of total cultivated area)	
UK	United Kingdom	1 120 000 (estimate)	1 120 000	1 195 000 (estimate)	548 061	49%	570 798	51%	645 798 (estimate)	54%			

(\*)Sludge produced by private treatment plants. Since 1995 sludge from municipal plants is no longer used in agriculture.

<sup>138</sup> This Table, although relative to the previous reporting period 1995-97, is here introduced as a complement of information to the reader. The corresponding Table contained in the previous consolidated report COM(1999) 752 has been supplemented with data sent by Member States too late for being included in that report.

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Table 5: Total sludge production and quantities used in agriculture in the reporting period 1998-2000

Member State		Sludge produced (tonnes of dry matter)			Sludge used in agriculture (tonnes of dry matter)						Surface covered (hectares)		
		1998	1999	2000	1998	%	1999	%	2000	%	1998	1999	2000
A	Austria	399 188	406 696	401 867	43 518	11%	38 698	10%	40 455	10%			
B	Wallonia Region	15 836	17 967	18 228	13 042	82%	9 504	53%	10 733	59%	-	-	-
	Flemish Region <sup>139</sup>	63 919	76 699	80 708	16 006	25%	5 410	7%	0	0			
D	Germany	2 228 029	2 263 843	2 297 460	842 497	38%	861 631	38%	858 801	37%	-	--	-
DK	Denmark	153 780	155 621	-	96 200	62%	95 500	61%	-		23 649 ha/ 3 years	22 920 ha/ 3 years	-
E	Spain	716 145	784 882	853 482	353 986	49%	413 738	53%	454 251	53%			
EL	Greece	59 320	60 135	66 335	0		0		0				
F	France	858 000	855 000	-	554 000	65%	552 000	65%	-		176 000 (estimate)	176 000 (estimate)	-
FIN	Finland	158 000	160 000	160 000	23 000	14%	23 000	14%	19 000	12%	-	-	-
I	Italy <sup>140</sup>	717 776	728 280	779 220	194 811	27%	164 698	23%	217 805	28%	12 977	5 167	15 711
IRL	Ireland	37 595	38 551	35 039	5 238	14%	8 734	23%	14 109	40%	-	-	-
L	Luxembourg	-	7 000	-	-		5 600	80%	-		-	1 870	-
NL	Netherlands <sup>141</sup>	220	242	-	34	15%	36	15%	45	-			
P	Portugal	121 138 (estimate)	374 147 (estimate)	238 680 (estimate)	41 413	34%	66 547	18%	37 176	16%	-	-	-
S	Sweden <sup>142</sup>	221 000	221 000 (estimate)	220 000 (estimate)	56 000	25%	56 000 (estimate)	25%	35 000 (estimate)	16%	13 000 (estimate)	13 000 (estimate)	8 000 (estimate)
UK	United Kingdom	1 045 150	1 105 918	1 066 176	502 200	48%	554 924	50%	584 233	55%	-	-	-

<sup>139</sup> No sludge from urban waste water treatment plants has been used in agriculture since 1 December 1999 because it has not been possible to keep to the VLAREA requirements.

<sup>140</sup> Data not complete for all Regions.

<sup>141</sup> Municipal sludge has not been used in agriculture since 1995. The values given here therefore relate only to sewage sludge produced by private facilities.

<sup>142</sup> Data on surface covered are based on the assumption that 4.3 tonnes of sludge are spread per hectare every six years, corresponding to about 120 kg P/ha every six years.

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**Table 6:** Average heavy metal concentrations in sludge (mg/kg dry matter)

	86/278/EEC	A			B						D			DK			E		
					Flanders			Wallonia											
		1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000 (estimate)	1998	1999	2000	1998	1999	2000
<b>Cd</b>	20 – 40	1.1-6.4	0.65-5.4	0.71-3.4	2.4	3.2	3.8	1.7	1.7	1.7	1.4	1.3	1.3	1.35	1.39	-	6.5	2.1	2.5
<b>Cr</b>	-	34-240	53-60	39-67	82	76	77	79	94	86	49	47	41	25.2	24.6	-	238	135	146
<b>Cu</b>	1000 – 1750	114-244	133-190	139-218	359	315	310	186	194	190	289	294	302	242	220	-	277	303	300
<b>Hg</b>	16 – 25	0.8-1.3	0.7-1.2	0.6-1.3	1.3	1.4	1.6	1.8	1.9	1.2	1	0.9	0.9	0.99	0.91	-	1.2	1.4	2.1
<b>Ni</b>	300 – 400	21-43	21-54	19-42	49	46	45	35	34	30	27	28	28	20.2	20.5	-	59	49	46
<b>Pb</b>	750 – 1200	32-78	45-54	46-56	187	204	177	121	126	137	63	61	60	49.8	47.2	-	212	117	104
<b>Zn</b>	2500 – 4000	539-920	622-778	597-961	1228	1236	1174	1065	953	1009	835	820	826	686	650	-	883	959	897
<b>N</b>		19-45900	17-58200	18-46100	38 000	35 000	35 000	32 887	34 719	33 460	37 500	36 000	38 200	44 600	42 800	-	36 882	42 978	45 463
<b>P</b>		23-47000	23-49300	22-52300	39 000	42 000	46 000	29 445	23 210	22 978	20 400	23 100	25 300	29 500	28 800	-	36 993	39 921	45 612

	86/278/EEC	EL			F			FIN				I <sup>143</sup>			IRL			L		
		1998	1999	2000	1998	1999	2000 (estimate)	1998 (estimate)	1999 (estimate)	2000 (estimate)	1998	1999	2000	1998	1999	2000	1998	1999	2000	
<b>Cd</b>	20 – 40	-	-	-	-	-	1.9	0.9	0.9	0.9	2.9	2.8	2.5	1.6	2.6	0.8	1.9	1.7	2	
<b>Cr</b>	-	-	-	-	-	-	44	52	50	104	83	72	104	165	165	-	49	63	57	
<b>Cu</b>	1000 – 1750	-	-	-	-	-	297	273	145	225	254	293	247	310	333	195	262	300	317	
<b>Hg</b>	16 – 25	-	-	-	-	-	1.9	0.7	0.7	0.5	1.4	1.4	0.98	0.05	0.6	1.0	5	1.9	1.5	
<b>Ni</b>	300 – 400	-	-	-	-	-	27	21	28	24	54	37	54	39	33	18	31	51	42	
<b>Pb</b>	750 – 1200	-	-	-	-	-	85	17	11	23	96	95	87	61	106	108	131	129	114	
<b>Zn</b>	2500 – 4000	-	-	-	-	-	677	473	286	442	749	798	741	517	568	418	1 736	1 668	1 632	
<b>N</b>		-	-	-	-	-	40 000	25 000	17 000	27 000	52 800	53 400	50 500	27 558	27 558	27 976	25 260	22 500	23 200	
<b>P</b>		-	-	-	-	-	25 800	15 000	11 000	19 000	20 400	20 500	19 800	10 386	10 386	5 415	52 260	50 314	56 200	

<sup>143</sup> Weighted mean calculated on available data from different Regions.

	86/278/EEC	NL			P			S			UK		
		1998	1999	2000	1998	1999	2000	1998	1999 (estimate)	2000	1998	1999	2000
<b>Cd</b>	20 – 40	0.37	0.54	0.40	2.5	2.9	3.4	1.1	1	0.9	2.5	2.6	2.1
<b>Cr</b>	-	21	18	20	55	99	110	25	25	24	106	111	113
<b>Cu</b>	1000 – 1750	31	32	32	454	397	512	471	432	393	440	445	457
<b>Hg</b>	16 – 25	0.18	0.17	0.18	2	4.6	5.2	1.1	1	0.8	2	2	1.7
<b>Ni</b>	300 – 400	11	9	9	30	39	46	16	16	16	50	48	52
<b>Pb</b>	750 – 1200	11	18	14	98	83	105	34	33	31	202	204	195
<b>Zn</b>	2500 – 4000	148	139	131	1 440	1 280	1 670	517	486	455	777	815	790
<b>N</b>		14 000	16 000	14 000	36 300	33 040	35 400	39 300	40 350	41 400	37 108	39 554	41 052
<b>P</b>		10 000	9 000	10 000	31 123	27 900	28 440	27 900	27 050	26 200	25 955	26 267	27 374



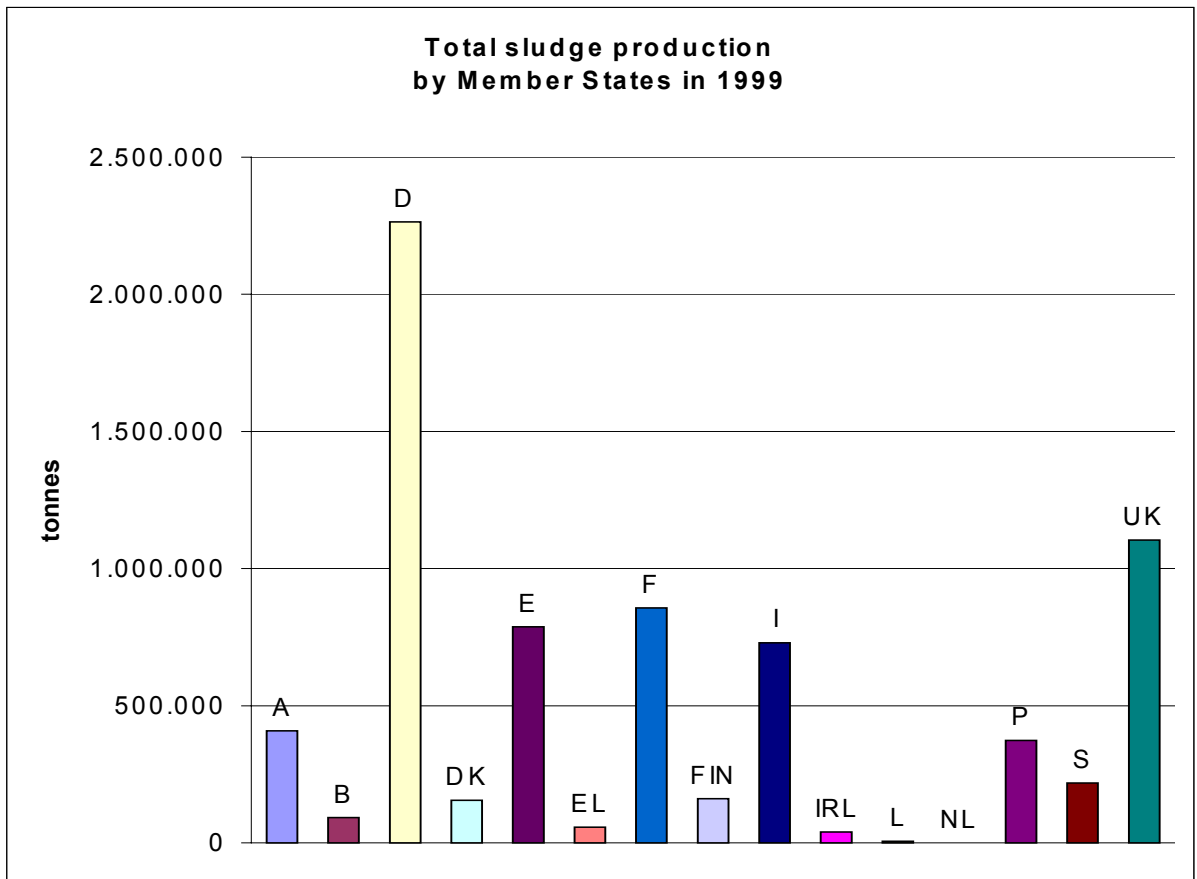


Figure 1. Sludge production in 1999

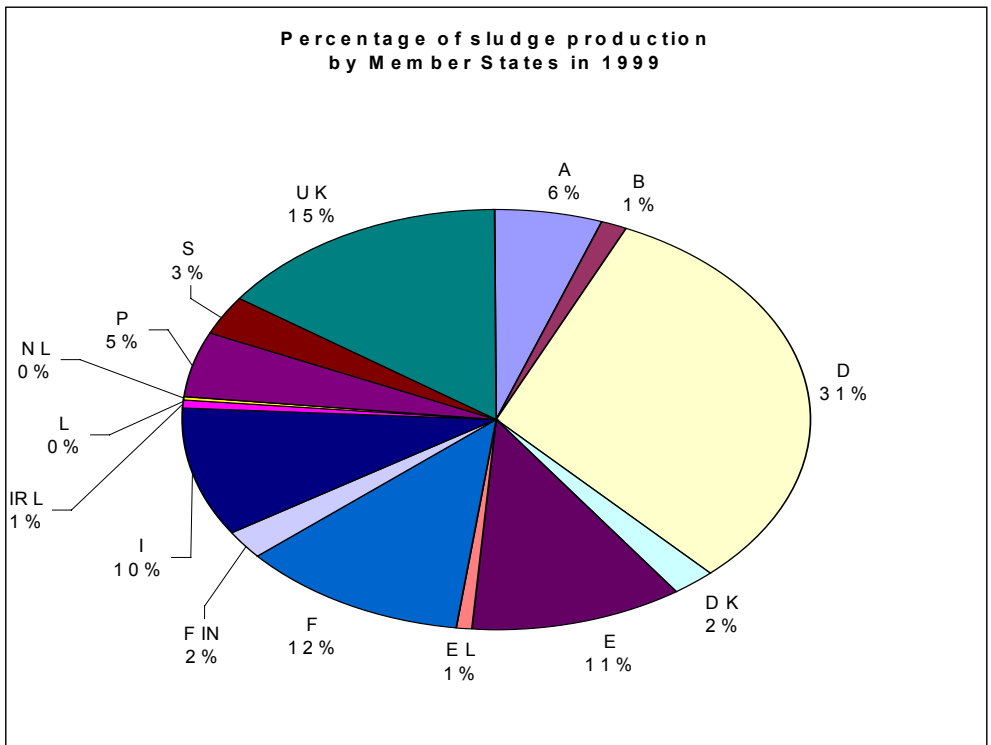
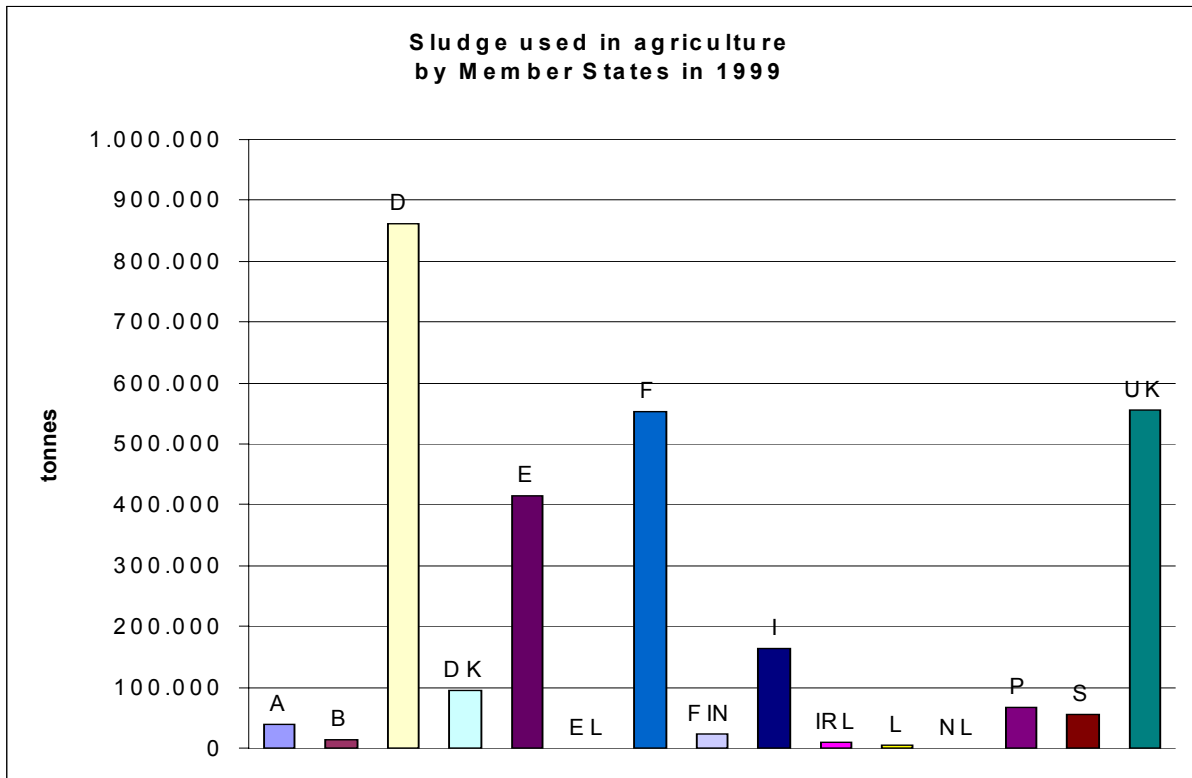
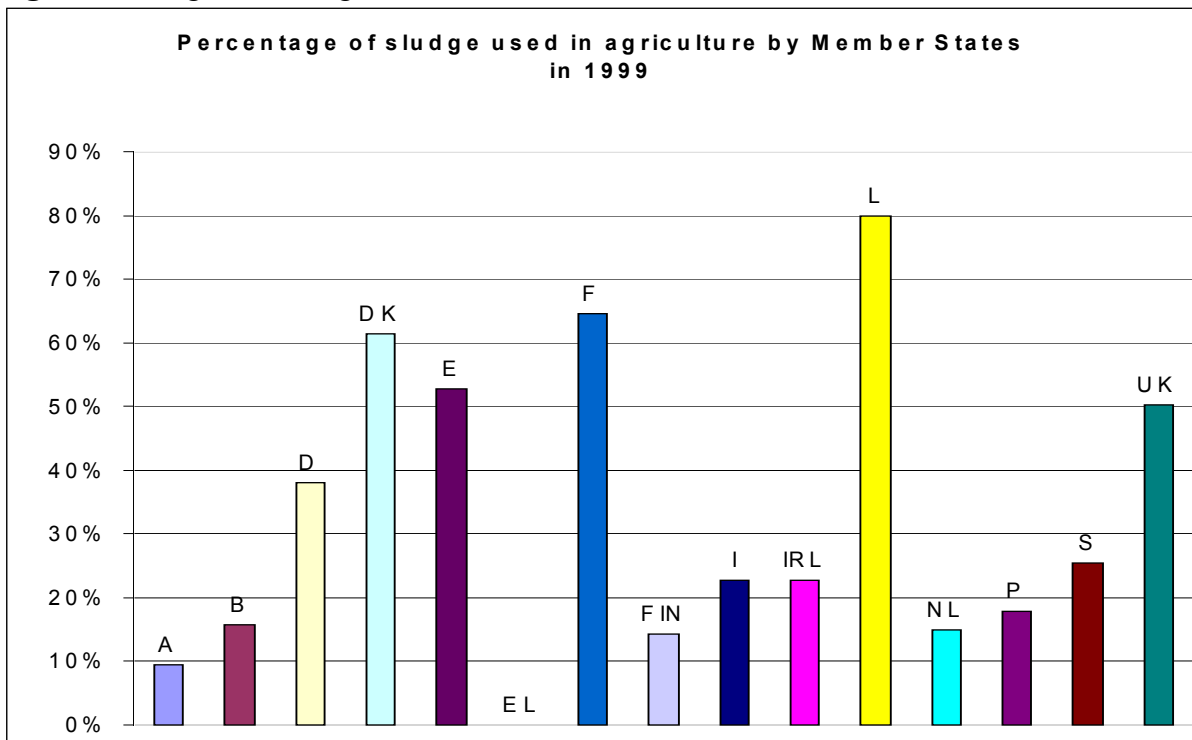


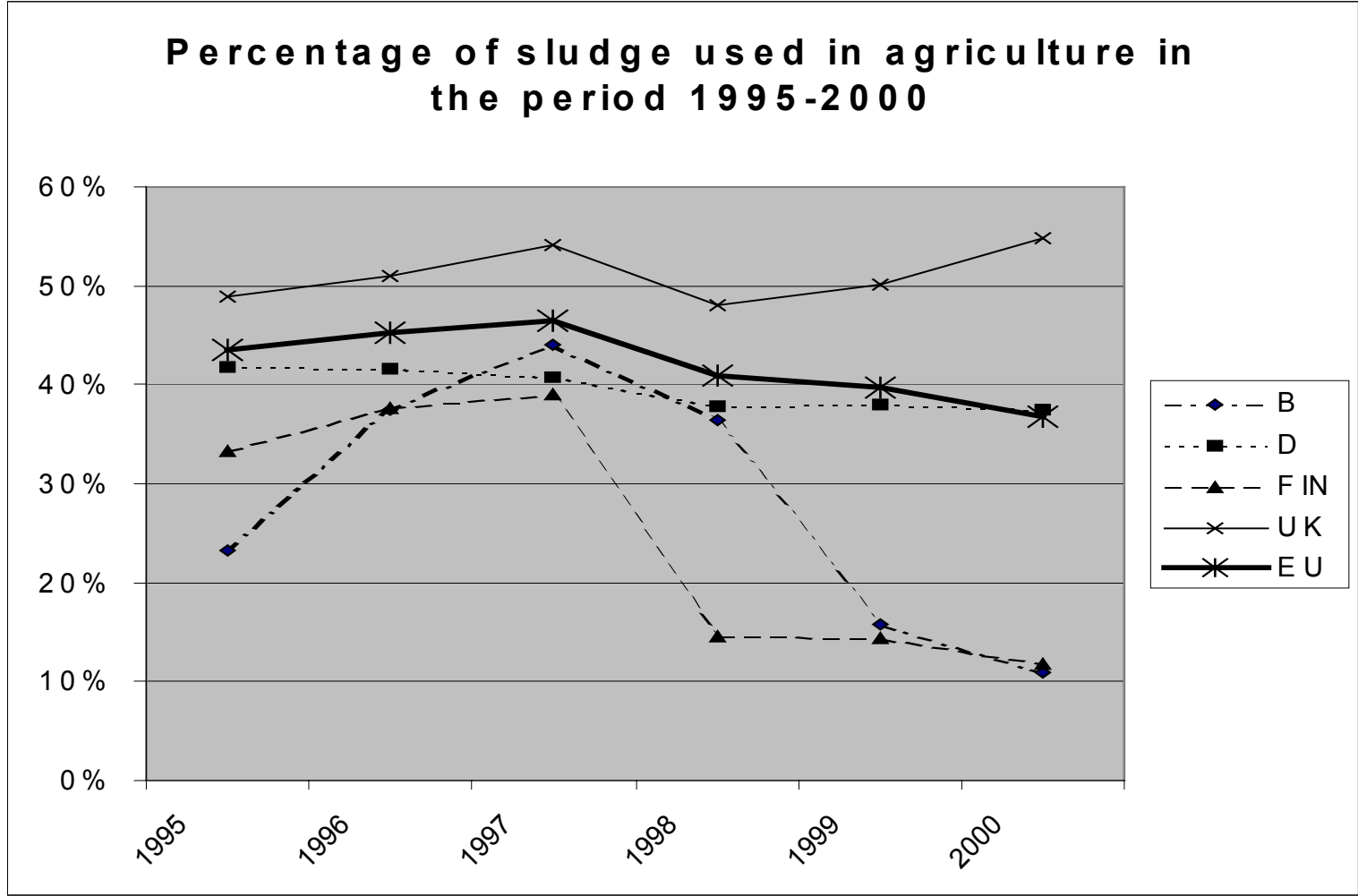
Figure 2. Percentage of sludge production by Member State in 1999



**Figure 3.** Sludge used in agriculture in 1999



**Figure 4.** Percentage of sludge used in agriculture by Member State in 1999



**Figure 5.** Percentage of sludge used in agriculture in selected Member States over the period 1995-2000

# DIRECTIVE 94/62/EC ON PACKAGING AND PACKAGING WASTE

## 1. INTRODUCTION

Directive 94/62/EC<sup>144</sup> on Packaging and Packaging Waste (Packaging Directive) has two main objectives: to protect the environment and to ensure the functioning of the internal market. To this end, the Directive lays down measures aimed as a first priority, at preventing the production of packaging waste and, as additional fundamental principles, at reusing packaging, at recycling and other forms of recovering packaging waste and hence, reducing the final disposal of such waste.

These measures include:

- Prevention: National measures and encouragement of standards (Article 4)
- Reuse: National measures (Article 5)
- Recovery and recycling targets to be achieved by 30 June 2001 (Article 6):
  - Recovery between 50 and 65%
  - Recycling between 25 and 45% (15% per material)
- Greece, Ireland and Portugal may postpone the attainment of these targets until 31 December 2005 (in this case, a 25% recovery target by 30 June 2001 applies)
- Return, collection and recovery systems to be set up by Member States according to certain criteria (Article 7),
- Marking to be established by a future directive (this is not yet adopted<sup>145</sup>) and an identification system to be adopted through comitology (Decision 97/129/EC<sup>146</sup>); (Article 8)
- Essential requirements for packaging to be allowed to freely circulate within the Internal market and promotion of standardisation by the Commission (Articles 9, 10 and 18<sup>147</sup>)
- Limits for heavy metals in packaging (Article 11<sup>148</sup>)
- Information systems and data formats to be adopted through comitology (Decision 97/138/EC<sup>149</sup>); (Article 12)

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<sup>144</sup> OJ No L 365, 31.12.1994, p.10 - 23

<sup>145</sup> The Commission has submitted a proposal for this purpose in 1996. The Parliament has concluded its first reading but the Council has not adopted a Common Position since then.

<sup>146</sup> OJ L 50, 20.2.1997, p. 28-31.

<sup>147</sup> The references to standards EN 13428:2000 and EN 13432:2000 have been published in Commission Decision 2001/524/EC, OJ L 190, p. 21-23.

<sup>148</sup> Derogations have been adopted for plastic crates and plastic pallets (Decision 1999/177/EC, OJ L 56, 4.3.1999, p. 47-48) and glass packaging (Decision 2001/171/EC, OJ L 62, p.20-21). The decisions apply for certain limits or under certain conditions.

- Information for users (Article 13)
- Economic instruments: national measures (Article 15)
- Reporting obligations (Article 17)

This report is based on the replies to the questionnaire adopted by Commission Decision 97/622/EC<sup>150</sup> of 27 May 1997. In addition, the reports sent to the Commission under Decision 97/138/EC have been used to produce the data on packaging placed on the market, re-used, recovered and recycling. Where appropriate, reference is made to available studies.

## 2. INCORPORATION INTO NATIONAL LAW

### 2.1. National law

All Member States have provided the Commission with details of their laws, regulations and administrative provisions introduced to comply with the Packaging Directive.

During 2002, the Commission sent Reasoned Opinions to **Austria** for failing to bring its legislation in line with regard to a definition for organic recycling and to **Ireland** for failing to put all the necessary legislation into place to achieve the minimum targets for recovery to be met by 2005.

### 2.2. Programmes going beyond the objectives referred to in Article 6(1)(a) and (b)

*Article 6(1) (a) and (b) sets a range within which Member States must set national recovery and recycling targets to be achieved by June 2001. According to **Article 6(6)**, Member States are permitted to pursue programmes going beyond the targets of Article 6(1) (a) and (b), if they provide to this effect appropriate capacities and on condition that these measures avoid distortions of the internal market and do not hinder compliance by other Member States with the Directive. The Member States shall inform the Commission thereof. The Commission shall confirm these measures, after having verified, in co-operation with the Member States, that they are consistent with the considerations above and do not constitute an arbitrary means of discrimination or a disguised restriction on trade between Member States.*

The following countries have communicated such programmes:

**Austria:** confirmed in Decision 1999/42/EC of 22 December 1998<sup>151</sup>

**Belgium:** confirmed in Decision 1999/652/EC of 15 September 1999<sup>152</sup>. For 1998, a recycling target of 45% and a recovery target of 70% apply. For 1999, the targets are 50% for recycling and 80% for recovery.

**Netherlands:** confirmed in Decision 1999/823/EC of 22 November 1999<sup>153</sup>

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<sup>149</sup> OJ L 52, 22.2.1997, p. 22-30.

<sup>150</sup> OJ L 256, 19.9.1997, p. 13-19

<sup>151</sup> OJ L 14, 19.1.1999, p. 24-29

<sup>152</sup> OJ L 257, 2.10.1999, p. 20-23

<sup>153</sup> OJ L 321, 14.12.1999, p. 19-23

Further notifications have been received by **Denmark** and **Sweden**. In both cases, it was considered that the programmes exceeding the targets were not measures taken by the Member State but programmes set up by industry in order to comply with the Directive. Such programmes would not fall under the scope of article 6(6).

It should be noted that the directive does not exclude that in reality higher recovery and recycling rates are achieved (e.g. as a result of high consumer participation) if these are not the direct result of national programmes established by public authorities.

### 2.3. Infringement proceedings

Currently, infringement proceedings are ongoing with regard to eight Member States. In addition to the proceeding concerning **Austria** and **Ireland** mentioned above in section 2.1, these are the following: **Germany** has been referred to the European Court of Justice with respect to the effects of a sanctioned 72% quota for refillable beverage containers on the free movement of mineral waters. **Finland** has received a reasoned opinion for failing to ensure, in breach of Article 7(1)(2) of the Directive, that the system of packaging levy is non-discriminatory, open to all operators and is not a barrier to trade or competition. The cases against Germany and Finland both aim to ensure that the national systems which have been set up respect provisions in the Directive safeguarding the internal market. These systems have thus not been questioned from an environmental point of view. **The Netherlands** has been referred to the Court for the failure of Dutch legislation to formally provide for the setting up of such systems. During 2002, the Court ruled that **France**, **Italy** and the **UK** had failed to include a specific chapter relating to packaging waste in all of their waste management plans as required by Article 14 of the Directive.

## 3. IMPLEMENTATION OF THE DIRECTIVE

### 3.1. Prevention of packaging waste

*Article 4 of the Packaging Directive provides that, in addition to the measures to prevent the formation of packaging waste taken in accordance with Article 9 of the directive, additional preventive measures must be implemented. Such other measures may consist of national programmes or similar actions.*

Most Member States have adopted measures to prevent the formation of packaging waste. Details are provided below.

In **Austria**, waste associations and collection and recovery systems provide information about waste prevention and the advantages of reusable packaging systems.

In **Belgium**, article 11, paragraph 2 of the law on product standards aims at promoting sustainable production and consumption patterns on the basis of a standstill principle (ratio of packaging to packed product). An implementation decision is being prepared. The managers responsible for putting on the Belgian market products with more than 10 tonnes of packaging are obliged to draft a prevention plan every three years.

In **Denmark**, a packaging tax has been adopted on the basis of the material, environmental burden and weight of the packaging. This is expected to have a preventive effect on the quantity of packaging waste. In addition, Denmark has a programme of subsidies for cleaner

technology, products etc. The Danish Environment Protection Agency is also working out a waste prevention strategy.

In **Finland**, Government Decision No. 962/1997 lays down quantitative targets for packaging waste. It sets a minimum goal to be attained by 30 June 2001 of a reduction of 6% in the ratio of packaging waste to packaged goods consumed annually in Finland (primary responsibility of the packaging producer). The principal preventive means are substantial reuse and deposit-return systems. Manufacturers are making increasing use of reusable pallets, trolleys and plastic crates.

In **France**, the fees charged by the recycling systems are based on units and weight of packaging and give an incentive to prevent packaging waste. They also integrated criteria on recyclability. Agreements with recycling systems also foresee that these produce prevention catalogues and best practice manuals for industry and consumers.

In **Germany**, there are criteria for the “Blue Angel” eco-label for equipment for the production of carbonated water.

In **Greece**, the National Organisation for the Alternative Management of Packaging and Other Products (EOEDSAP; set up in accordance with article 5 of Law 2939/2001) provides for the development of programmes with the application of the prevention principle as the key component.

In **Ireland**, the producer responsibility and in particular the membership fees to the packaging compliance scheme incentivise the minimisation of packaging by producers. The compliance scheme Repak provides best practice advice to its members to prevent/minimise packaging and packaging waste. Various awareness campaigns (see section on information campaigns) promote waste prevention as part of their programmes. Waste prevention is also emphasised in regional waste management plans.

In **Italy**, further to maximising reuse, recycling and recovery, the packaging recovery system set up by the legislative decree No. 22/97 draws up a general prevention programme. This programme undertakes a number of studies and initiatives with producers and users of packaging concerning the methods of producing goods and packaging, logistics, etc. with the aim of reducing the amount of raw materials used and to cut packaging waste.

In the **Netherlands**, prevention measures are part of the second packaging covenant. Companies are obliged to implement a systematic approach to improving packaging in environmental terms. Companies with more than 4 employees and who place more than 50 tons of packaging made of paper/cardboard, glass, metal or plastic on the Dutch market must report on the prevention measures to the implementing authority.

In **Portugal**, a number of awareness raising initiatives for various target groups were launched. The focus on re-use as a guiding principle in Ministerial Order 29-B/98 is also contributing to packaging prevention. As a further example, some supermarkets have taken steps to promote reusable carrier bags.

In **Spain**, Article 5(c) of Law 11/1997 provides that the total quantity of packaging waste arising shall be reduced by at least 10% by weight. According to the seventh additional provision in Law 10/1998 persons responsible for placing on the market packaged products generating more than a threshold to be specified by the government have to draw up

prevention plans to minimise and prevent at source the production of packaging waste and any adverse effects thereof. The national programme on packaging and packaging waste provides for a series of investments totalling 350 million € for the period of 2000-2002.

In the **United Kingdom**, a tonnage obligation provides financial incentives to lower tonnage, and thus costs.

### 3.2. Measures to encourage reuse systems

*Article 5 provides that Member States may encourage reuse systems of packaging, which can be reused in an environmentally sound manner, in conformity with the Treaty.*

Most Member States have introduced measures to encourage reuse systems. The following information is based on the replies to the questionnaire of Commission Decision 97/622/EC. More information can be found in a study on reuse available on the following website: <http://europa.eu.int/comm/environment/waste/studies/packaging/reuse.htm>.

**Austria** took measures with a view to administrative simplifications regarding the recording and notification requirements of the relevant regulation.

In **Belgium**, reusable packaging is not subject to eco-taxes. Reusable packaging is exempted from the take-back obligations of the Belgian legislation and therefore not subject to payments to recycling systems. The packaging prevention plans shall also encourage the replacement of one-way by reusable packaging.

**Denmark** has a system under which beer and carbonated soft drinks can only be sold in approved returnable packaging<sup>154</sup>. Wine and spirits bottles are collected through municipal schemes, the catering sector and the retail trade. Intact collected bottles are cleaned and sold for refilling and a tax refund is granted for the export of such bottles. There is also substantial reuse of transport packaging.

**Finland** uses taxes and deposit-return systems to encourage re-use of packaging. A levy of 0.67 €<sup>155</sup> per litre is charged on disposable packaging (0.17 € for packaging in a deposit-refund recycling scheme). No levy is charged on refillable packaging. Deposits of 0.08 to 0.42 € are charged in deposit-refund schemes for refillable glass and PET bottles. Moreover, Finland has a combined target for recovery and reuse (82% by 2001).

In **Germany**, there is a deposit obligation on one-way drinks packaging. This obligation does not apply if the producer participates in a post-consumer collection and recovery system, provided drinks sold in reusable packaging account for at least 72% of drinks sold in Germany<sup>156</sup>.

In **Greece**, the packaging alternative management programmes are also intended to include measures to promote reusable packaging where environmentally sound and technically and economically feasible.

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<sup>154</sup> The Danish rules described in this paragraph have been subject to an infringement procedure during the reference period. In the meantime, these measures have been modified and the case was withdrawn.

<sup>155</sup> Figures calculated from Finnish marks (applicable during the reference period)

<sup>156</sup> This 72% quota is subject to an open infringement procedure



In **Ireland**, the awareness campaigns mentioned in the section on information campaigns include measures to promote re-use. Packaging destined for re-use is excluded from the calculations determining the amount of packaging placed on the market and whether or not a producer is a major producer and thereby has to fulfil more onerous producer responsibility obligations.

In **Italy** the annual general programme for the prevention and management of packaging and packaging waste also identifies measures to increase the proportion of packaging waste which can be reused, including improving the characteristics of such packaging so it is able to withstand a higher number of trips.

In the **Netherlands**, beer, soft drinks and water may only be placed on the market in one-way packaging if it does not undermine re-use systems, unless it can be demonstrated that one-way packaging results in lower, or at most the same, environmental impact than re-use systems.

**Portugal** has set reuse targets for 1997-99 for soft drinks, beer, natural mineral water, spring water or other bottled water and table wine (ministerial order 29-B/98 of 15 January 1998). All distributors selling certain beverages in non-reusable packaging must also sell the same category of products in reusable packaging. Certain categories of beverages sold in hotels, restaurants and similar establishments must be sold in reusable packaging, unless specific systems are set up to provide for the selective collection and recycling of non-reusable packaging.

In **Spain**, the encouragement of reuse is part of the obligation of companies when drawing up packaging prevention plans. The national programme on packaging and packaging waste sets a series of targets for reuse of packaging and lays down how they are to be attained.

**Sweden** has reuse targets for glass and PET in its national legislation and encourages deposit-return systems for beverage packaging.

In the **United Kingdom**, businesses are allowed to exclude any tonnage of packaging reused from their tonnage obligation and may spread the cost of the first-trip obligation over four years.

### **3.3. Measures to set up return systems**

*According to Article 7, Member States must take the necessary measures to set up systems to provide for the return and/or collection of used packaging and/or packaging waste and systems for the reuse or recovery, including recycling, of packaging and/or collected packaging waste. These systems shall be open to the participation of the economic operators of the sectors concerned and to the participation of the competent public authorities. They shall also apply to imported products under non-discriminatory conditions and shall be designed so as to avoid barriers to trade or distortions of competition in conformity with the Treaty.*

In most countries, producer responsibility systems have been set up and producers must take back packaging waste, organise their own take back systems or participate in return systems for the return, collection, reuse, recovery or recycling of packaging waste. Specific elements of such schemes that have been provided by Member States in their replies to the questionnaires are outlined below. The only countries where other schemes than producer

responsibility are applied are the Netherlands and Denmark who rely on municipalities or agreements with industry to organise the return of packaging waste.

More detailed information on national systems can be found in: European Commission 2001, European Packaging Waste Management Systems (available on the following website: <http://europa.eu.int/comm/environment/waste/studies/packaging/epwms.htm>).

In **Belgium**, return systems have to be authorised for five years. Those return systems are responsible for attaining the recycling and recovery targets on behalf of their members. Currently, two such systems exist: FOST Plus for household packaging and VAL-I-PAC for industrial packaging. For re-usable packaging, a deposit applies along with an obligation to apply a symbol indicating that the packaging is reusable and subject to a deposit system.

In **Denmark**, municipal systems for the return of packaging apply. Additionally, there are specific systems for the reuse of beer and soft drinks.

In **Finland**<sup>157</sup>, to date, eight organisations to supervise collection and recovery of packaging waste have been established. These mainly material specific organisations have established a joint organisation called PYR Oy to coordinate operations and ensure that agreed targets are met.

In **France**, Eco-Emballages and Adelphe have been authorised for household packaging. Several professional organisations have been set up to take back industrial packaging waste.

In **Germany**, there is one such system for household packaging, DSD AG. For wholesale trade and industry and for the collection and recovery of transport packaging, there is a number of nation-wide companies specialised in the collection and recovery of specific packaging types. Additionally, there is a multitude of other waste management companies managing return and recovery operations on behalf of third parties.

In **Greece**, return systems have to be approved by EOEDSAP<sup>158</sup>. Applicants have to submit documentation on the necessary technical and financial infrastructure. The approval is valid for six years.

In **Ireland**, the regional waste management plans developed by the local authorities contain measures to increase separate collection of recyclable waste. At the end of 2000, segregated household collection had been introduced in Dublin and prepared in other urban areas. Nationally, over 1000 bring banks and 38 civic amenity sites were in place. There is one approved packaging waste compliance scheme for commercial and household packaging waste, Repak. The quantities of packaging recovery with the support from Repak membership fees increased from 93,000 tonnes in 1998 to 146,000 tonnes in 2000.

In **Italy**, there are six sectoral consortia (paper, plastics, wood, glass, steel and aluminium). These consortia co-operate within an overall national consortium, CO.NA.I. All these consortia are governed by statutes approved by joint decrees of the environment and industry ministries. CO.NA.I is responsible for the organisation of an integrated return system in co-operation with public authorities. For this purpose, a programme agreement with the National

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<sup>157</sup> There is an open infringement procedure concerning the openness to participation of certain return systems according to Article 7 of the Packaging Directive.

<sup>158</sup> National Organisation for the Alternative Management of Packaging and Other Products

Association of Italian Municipalities (ANCI) was signed in 1999. The six sectoral consortia prepare contributions to the annual programme for the prevention and management of packaging and packaging waste. This programme identifies among others measures to achieve the recovery and recycling targets. It also fixes material specific targets every five years.

In the **Netherlands**, there is a strong role of municipalities in the collection of packaging waste. A covenant was concluded with the relevant industry sectors which specifies certain obligations for industry.<sup>159</sup>

In **Luxembourg**, one system has been authorised as a collective return system for municipal packaging waste (VALORLUX).

In **Portugal**, Sociedade Ponto Verde (SPV) has been licensed to manage the return system for municipal packaging waste. This licence has been extended to non-municipal waste in 2000. Within SPV, VERDORECA manages the return of non-reusable packaging from hotels, restaurants and other catering establishments. Next to taking back unused medical products, SIGREM has also been licensed to take back packaging from such products.

In **Spain**, chapter IV of Law 11/1997 governs the systems for the return of municipal packaging waste. More specifically, this includes provisions on (i) the deposit, return and collection system; and (ii) the integrated management system. The first additional provision of Law 11/1997 lays down the obligations for commercial and industrial packaging waste.

In **Sweden**, material companies have been created for glass, plastic, paper and cardboard, corrugated board, metal, aluminium cans and PET bottles. REPA-Registret administers the fees. Förpackningsinsamlingen overlooks the collection systems. All companies cover household and industrial packaging throughout Sweden through kerbside collections, from blocks of flats, municipal recovery centres and regional collection points.

In the **United Kingdom**, there is a range of collection systems, including local authorities, packaging compliance schemes, waste collectors and others. For recovery and recycling of packaging waste, a producer responsibility system has been established, under which 80% of obligated parties comply through packaging compliance schemes who discharge the legal obligation to achieve recovery and recycling targets. Some businesses discharge the obligation themselves; where they do, they will use established waste management companies and existing systems to discharge their obligations.

### 3.4. Encouragement of the use of recycled material

*Article 6(2) provides that, where appropriate, Member States shall encourage the use of materials obtained from recycled packaging waste for the manufacturing of packaging and other products.*

The majority of countries have taken such measures. Details can be found below.

In **Belgium**, the managers responsible for packaging are encouraged to use recycled materials in the framework of the prevention plans.

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<sup>159</sup> This system is subject to an open infringement procedure.

In **Denmark**, the environment and weight based packaging tax covering particular products makes provision for a 40% tax reduction when recycled plastic and paper are used.

In **France**, the national environment protection agency ADEME and the return system Eco-Emballages support research and development programmes to develop applications for the use of secondary materials. Eco-emballages publishes a catalogue of products made from recycled materials destined for public purchasers.

In **Germany**, producers and distributors must assume product responsibility by giving priority to the use of recoverable waste or secondary materials when manufacturing products. Public purchasers must check to what extent products from recycled materials can be used in public procurement. The “Blue Angel” eco-labelling scheme pays particular attention to the use of recycled materials.

In **Ireland**, a Market Development Programme shall be drawn up by a Market Development Group comprising various representatives from government and private actors. This Programme shall, inter alia, be based on a report entitled “A Strategy for Developing Recycling Markets in Ireland”, commissioned in 2000 and completed in 2002.

In **Italy**, the “general programme for the prevention and management of packaging and packaging waste” drawn up by the national return system consortium CO.NA.I. contains measures to increase the proportion of packaging waste which can be recycled. Public authorities are responsible for encouraging the use of recycled materials from packaging waste.

In the **Netherlands**, the packaging covenant contains relevant provisions.

In **Portugal**, there are Community funded projects concerning the use of recycled materials (Plano Operacional do Ambiente and PEDIP).

In the **United Kingdom**, packaging compliance schemes are required to have policies showing steps to increase use of recycled packaging waste in packaging or product manufacturing. Local authorities run “Buy Recycled” campaigns and the Government’s “Are You Doing Your Bit” campaign encourages consumers to buy recycled products.

### **3.5. Information campaigns**

*According to **Article 6(4)**, the measures and targets referred to in Art. 6 paragraphs 1 (recovery and recycling targets) and 2 (use of recycled materials) shall be published by Member States and shall be the subject of an information campaign to the general public and economic operators. **Article 13** provides that Member States shall take measures to ensure that users of packaging, including in particular consumers, obtain the necessary information on return, collection and recovery systems, their role in contributing to reuse, recovery and recycling of packaging and packaging waste, the meaning of markings and the appropriate elements of waste management plans.*

All Member States have published the measures and targets on recycling and recovery. Most countries have reported about a very wide range of information and communication measures.

In **Austria**, the targets of the Packaging Regulation were published as part of the Federal Waste Management Plan. The collection and recovery systems have an obligation to carry out

public awareness campaigns. Waste advisers and local authority publications provide information at local level.

In **Belgium**, the Commission interrégionale de l'Emballage (CIE) organises information events both for professionals and the concerned public. It also participates in environmental fairs. It has published a so-called "Green Brochure" to give information to the responsible packaging managers. More information can be found on the following web-site: <http://www.ivcie.be>. The return systems FOST Plus and VAL-I-PAC have been encouraged to distribute information material for the general public and for companies.

An information campaign for consumers was organised. In co-operation with the Belgian Federation of Distribution Enterprises (FEDIS), posters were distributed to shopping centres informing about the participation in recycling systems, encouraging participation in separate collection, an explanation of the "Green Dot" symbol and the annual licence fee paid to the return system. The information obligation for retailers is also part of a brochure published by the Interregional Packaging Commission.

In **Denmark**, various meetings and events on the Packaging Directive and its obligations were held. The Environment Protection Agency has compiled a guide for the municipal waste authorities providing information and advice on the reuse of plastic and paper/cardboard transport packaging.

In **Finland**, the targets have been published in a leaflet ("Pakkausjätehuolto uudistuu", Changes in Packaging Waste Management). This leaflet has been distributed to regional environment centres, local authorities, waste management companies and thousands of packers and importers. It has also been distributed at trade fairs and is also available on internet. There is also a series of press bulletins available. There are various publications, TV and radio spots, internet pages by PYR, the national umbrella organisation of the return systems. PYR and the return systems are also engaged in various events such as trade fairs, conferences, training courses, telephone campaigns for companies, etc. Other bodies involved in information activities include the Association of Packaging Technology and Research and the Association of Finnish Local and Regional Authorities, a number of individual local authorities and industry and trade associations.

Local authorities and waste management companies have provided information to consumers, e.g. by distributing leaflets or by specific information on the collection of small metal waste. PYR and the producer organisations have made campaigns via TV, radio spots, newspaper articles, leaflets, brochures and posters, help lines, environment education in schools and with scout organisations, Internet pages, etc.

In **France**, the packaging data are sent to the members of the Consultative Commission on household packaging and a wide range of other actors. Various publications by the national environment agency ADEME are widely distributed and presented at trade fairs. The data are also available on ADEME's website. Information on the selective collection of packaging is most directly given on a local level. The authorised packaging management systems have increased their financial support for information campaigns by municipalities from € 11 million in 1998 to € 23 million in 2001. This is 9% of all financial support paid to municipalities. Among the many different actions, there are also so-called "ambassadors for selective collection". They are part of a youth employment programme and contact citizens to explain the selective collection and have a direct dialogue. These local activities are complemented by national information campaigns organised by the Environment Ministry in

co-operation with the Environment Agency (ADEME) and the authorised packaging management systems. These include radio and TV spots, press advertisements, internet sites, brochures, games for children, “clean vacations” etc. Information for citizens is also provided in an “annual report on the price and the quality of the public waste disposal service” prepared by each local authority.

In **Germany**, the targets have been published in the Official Journal (Bundesgesetzblatt) and been subject to various public awareness campaigns at federal, regional and local level as well as by industry. The operator of a dual waste management system and the local authorities have to co-ordinate on public information. Notices in shops provide information on the return of grouped packaging in accordance with §5 of the Packaging Ordinance. Arrangements for the return of transport packaging are made public by market competition. The results of the national umbrella organisation for household packaging take back, DSD AG, are published annually.

In **Greece**, an information campaign aimed at producers and professional organisations has been started. A campaign for the general public is planned.

In **Ireland**, the public was informed on the targets of the packaging regulations through ministerial speeches, policy and press statements, seminars and by public advertisement and publicity. Businesses coming within the scope of the regulations were notified by letters and personal visits from local authorities and Repak personnel of their obligations. The Department of the Environment and Local Government operates a “The Environment – it’s easy to make a difference” awareness programme for consumers to promote waste prevention and minimisation, re-use and recycling, sustainable development and production/consumption. The Department has also produced a number of booklets and leaflets covering a wide range of information on waste recovery and informing people of the various actions that can be undertaken. This information is also available through the website of the environmental information office of the Department (ENFO). All local authorities promoted awareness of the return, collection and recovery systems through leaflets to households and businesses, advertisements in local press and radio and through their websites. In addition all local authorities have assigned Environmental Awareness/Education Officers to promote waste minimisation, reuse and recovery, with an emphasis on personal contact with all parties concerned. This also includes seminars, open days, supermarket campaigns, etc.

In **Italy**, CO.NA.I and the individual sector consortia have undertaken various information campaigns aimed at consumers and users of packaging. Details of the information campaigns are set out in a specific chapter of the general prevention programme.

In **Luxembourg**, an information campaign is being prepared. In its authorisation, VALORLUX has been obliged to provide adequate information to consumers.

In the **Netherlands**, relevant provisions are contained in the second packaging covenant.

In **Portugal**, a large range of awareness raising instruments were used by the Waste Institute (INR), the Autonomous Region of Madeira (ARM), the Sociedade Ponto Verde (SPV) and the Integrated system for waste medicinal products and their packaging (SIGREM). This includes a Committee for monitoring the management of packaging and packaging waste (CAGERE); ad hoc groups; conferences, seminars and events; strategic plans; radio advertisements and various press, radio and TV events; a telephone help line; distribution of information material; a mobile educational exhibition for schools and public events and

awareness-raising sessions at schools, supermarkets etc.; information of businesses; websites. The organisation VERDORECA provided information to hotels, restaurants, etc.

In **Spain**, the measures and targets have been published in Article 5 of Law 11/1997. Information campaigns have been undertaken both by the central government, regional and local authorities, and by the integrated packaging and packaging waste management systems. There were various communication, training and public awareness events. These activities were focused on the general public and specific sectors of society such as consumers and users, school children, concerned businesses, civil servants. Media used include press, radio, TV, cinema, videos, mail, outdoor advertising, exhibitions, trade fairs, seminars etc. Materials produced include teaching modules and other educational materials, leaflets, brochures, photographs, stickers, badges etc.

In **Sweden**, public authorities have published reports, internet publications, information leaflets and brochures. Similar information was produced by the operators of the return systems aimed both at the general public and at concerned industry.

In the **United Kingdom**, the regulations have been published both in Great Britain and Northern Ireland, along with non-statutory guidance (“The User’s Guide”). The Environment Agency and the Scottish and Northern Irish agencies also publish guidance. This is also available on the government websites. Information campaigns include “The Forward Look for Planning Purposes” and the Government’s “Are You Doing Your Bit” campaigns, aimed at the public and at economic operators. Compliance schemes must have policies on providing information to users/consumers of packaging. Businesses selling packaging have an obligation to provide information to consumers. Various publications inform the users of packaging.

### **3.6. National Standards relating to the essential requirements and to the concentration levels of heavy metals**

*According to **Article 9**, only packaging that complies with the essential requirements of Annex II of the Directive may be placed on the market. For this purpose, harmonised standards shall give presumption of conformity with the essential requirements. In the absence of harmonised standards, national standards can also give presumption of conformity. **Article 11** sets concentration for four heavy metals in packaging.*

At **Community** level the references to standards EN 13428:2000 and EN 13432:2000 have been published in Commission Decision 2001/524/EC<sup>160</sup>. This means that these two standards are considered harmonised standards. EN 13428:2000 only gives presumption of conformity with the first two indents of point 1 of the essential requirements (quantitative prevention, design and minimisation of environmental impact) but not to the third indent (prevention of hazardous substances). EN 13432:2000 covers the biodegradable and compostable nature of packaging. The references to standards on reuse, energy recovery and material recycling have not been published, and therefore these standards do not give presumption of conformity with the relevant essential requirements. CEN has received a second mandate to modify these standards with a view to their adoption as harmonised standards.

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<sup>160</sup> OJ L 190, p. 21-23

Only a few countries have adopted national standards. The majority of Member States indicated their intention to wait for the adoption of the harmonised standards. **Germany, Ireland, Italy** and the **United Kingdom** have indicated the existence of national standards in the area covered by the question. **Finland** has adopted the standards EN 13427, EN 13428, EN 13429, EN 13430, EN 13431 and EN 13432 as national standards relating to the essential requirements for packaging. There is no national standard on heavy metal concentrations. This is considered to be covered by CEN report CR 13695-1.

### 3.7. Specific chapter on waste management plans

*According to Article 14, Member States must include a chapter on the management of packaging and packaging waste in the waste management plans required pursuant to Article 7 of Directive 75/442/EEC.*

All Member States have indicated either that such chapters exist in their waste management plans or that they have taken the necessary legislative measures to ensure that they are part of regional waste management plans. During 2002, the Court ruled that **France, Italy** and the **UK** had failed to include a specific chapter relating to packaging waste in all of their waste management plans as required by Article 14 of the Directive.

### 3.8. Economic instruments

*Article 15 foresees that, in the absence of Community economic instruments, Member States may adopt such measures in accordance with the principles governing Community environmental policy, inter alia, the polluter-pays principle.*

As indicated in the section on return systems, most Member States have implemented a producer responsibility system. Additional measures or specific aspects of producer responsibility systems are outlined below:

In **Belgium**, a system of eco-taxes is applied. Producers of one-way packaging are exempt from this eco-tax if recycling targets are achieved.

In **Denmark**, a packaging tax has been adopted on the basis of the material, environmental burden and weight of the packaging. There is a tax on non-returnable packaging and on carrier bags. For beer and soft drinks, an obligatory deposit applies.

**Finland** uses taxes and deposit-return systems to encourage re-use of packaging. A levy of 0.67 €<sup>161</sup> per litre is charged on disposable packaging (0.17 € for packaging in a deposit-refund recycling scheme). No levy is charged on refillable packaging. Deposits of 0.08 to 0.42 € are charged in deposit-refund schemes for refillable glass and PET bottles.

In **France**, a reduced VAT rate (5.5% instead of 19.6%) applies to the separate collection, sorting and treatment of waste covered by contracts with authorised return systems.

In **Greece**, there are certain financial schemes for investments in packaging recycling and recovery.

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<sup>161</sup> The reference period being 1998 to 2000, the amounts are calculated from Finnish marks.



In **Spain**, there is a national investment scheme with a volume of 350 million € for the period 2000 to 2002. Many investments are also planned on regional and local levels.

The **United Kingdom** applies a system of packaging recovery notes (PRNs). This system is used to demonstrate compliance with the recovery/recycling obligations.

#### **4. QUANTITIES OF PACKAGING WASTE, RECOVERY AND RECYCLING RATES**

##### **4.1. Introduction**

*Article 12 of the Packaging Directive requires Member States to establish databases on packaging and packaging waste. In addition it requires Member States to provide the Commission with their available data according to **Commission Decision 97/138/EC** of 3 February 1997<sup>162</sup> establishing the formats relating to the database system pursuant to the Packaging Directive.*

*Article 3 of Commission Decision 97/138/EC requires Member States to provide the Commission with data covering the whole of each calendar year (starting with 1997) within 18 months of the end of the relevant year. According to Article 7 of this Decision the data is intended to monitor the implementation of the objectives of Directive 94/62/EC and to serve also for information purposes and as a basis for future decision-making.*

All Member States have provided data for 1997 to 1999. The only exception is Portugal for 1997. At the time of drafting this report, the data for 2000 have only partly been received and therefore are not considered here.

Article 7 of Decision 97/138/EC states that data on the reuse of packaging and for packaging made from materials other than glass, paper/fibreboard, metal and plastic is to be provided on a voluntary basis only. However, only Germany, Belgium, Italy, Portugal, UK, Spain, France and Austria have provided 1999 data related to wood packaging. Denmark, Germany and the UK are the only Member States to have provided the Commission with data on reuse according to the voluntary format established in Decision 97/138/EC. Due to difficulties in analysing incomplete data on wood packaging and on the reuse of packaging in general, this will not be considered in this report.

##### **4.2. Packaging Waste Generation**

The total amount of waste packaging generated within the European Union in 1997 was around 60 million tonnes. This increased in 1998 and 1999 to a total of around 63.5 million tonnes in 1999 (see table 1). Figure 1 shows the contribution to the total amount of packaging waste generated by different packaging materials, the so-called “packaging mix”. This packaging mix has remained relatively constant from 1997 to 1999 with percentages by weight as follows (1999 data): 24.2% glass, 15.9% plastic, 40.5% paper/fibreboard, 7.0% metals and 12.1% wood. Other packaging materials contribute less than 1%.

Figure 2 shows the contributions to the total amount of packaging waste generated in the European Union by different Member States. The largest contributors in terms of tonnage in

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<sup>162</sup> OJ L 052 22/02/1997 P. 0022-0030

1999 are Germany (15 million tonnes), France (12 million tonnes), Italy (11 million tonnes), the UK (9 million tonnes) and Spain (6 million tonnes).

In order to compare the contributions of each Member State, it is necessary to perform a normalisation. The normalisation factor that was chosen in the past for this purpose was population, however it is also possible to use GDP<sup>163</sup>. The GDP for a Member State is necessarily dependent upon its population but it also indicates the economic activity that this population generates. It is perhaps therefore a more appropriate normalisation factor than simply to use population. Both methods of normalisation will be used in this report.

The amount of waste packaging generated by each Member State both in terms of per head of population and per unit of GDP are shown in Table 2 and Figure 3.

#### *4.2.1. Packaging waste generated per capita in Member States*

On average across the whole of the European Union the amount of waste packaging generated per head of population increased from 161 kg in 1997 to 169 kg in 1999.

The Member States that generated the lowest amounts of packaging waste per head of population were Greece, Finland, Sweden and Portugal. These Member States each generated less than 130 kg per head of population in 1997, 1998 and 1999. However, the trend in both Greece and Portugal suggests much greater amounts of waste packaging per head of population will be generated in the future.

The Member states that generated the highest amounts of packaging waste per head of population were France, Italy, Ireland, Luxembourg, Germany and the Netherlands. These Member States each generated more than 160 kg per head of population in 1997, 1998 and 1999. The trend in all of these countries suggests that they will generate greater amounts of packaging waste per head of population in the future.

The only Member States who reduced the amount of packaging waste generated per head of population between 1997 and 1999 were the Netherlands, Denmark, Austria and the UK.

#### *4.2.2. Packaging waste generated per unit of GDP in Member States*

On average across the whole of the European Union the amount of waste packaging generated per unit of GDP decreased from 8200 kg in 1997 to 8000 kg in 1999.

The Member States that generated the lowest amounts of packaging waste per unit of GDP were Finland, Sweden, Luxembourg and Greece. These Member States each generated less than 6000 kg per 1000 PPS of GDP in 1997, 1998 and 1999.

The Member States that generated the highest amounts of packaging waste per unit of GDP were France, Spain, Italy, Ireland, Germany and the UK. These Member States each generated more than 7000 kg per 1000 PPS in 1997, 1998 and 1999.

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<sup>163</sup> Statistics on population and gross domestic product (GDP) were taken from the 2001 Eurostat Yearbook. Current exchange rates do not exactly reflect national price levels. Therefore GDP is converted into an artificial currency called PPS – the EU purchasing power unit – based on relative prices and designed to enable correct comparisons of volume of goods and services produced by the countries.

Most Member States reduced the amount of packaging waste generated per unit of GDP between 1997 and 1999. The only Member States that increased the amount of packaging waste generated per unit of GDP between 1997 and 1999 were Portugal, Italy and Greece.

### 4.3. Overall Recycling and Recovery

*Article 6(1) of Directive 94/62/EC sets the following targets for the recycling and recovery of all packaging waste in 2001: 50-65% recovery and 25-45% recycling. In addition a minimum of 15% recycling must be achieved for each packaging material.*

*Article 6(5) of Directive 94/62/EC allows Greece, Ireland and Portugal to postpone the attainment of these targets to 2005 however they are still required to recovery at least 25% of their packaging waste in 2001.*

Table 3 and Figures 4 to 6 show the achievements of Member States in 1997, 1998 and 1999 in terms of the total recovery and recycling of all packaging waste generated on their territory. Quantities of packaging waste exported for recycling/recovery have been included and imported packaging excluded when calculating these achievements.

#### 4.3.1. Current achievement of minimum requirements for 2001

All the Member States in the EU12, i.e. excluding Greece, Ireland and Portugal, achieved more than 25% recycling in 1999 and all except Spain, Italy and the UK achieved more than 50% recovery in 1999. Portugal and Greece have both achieved more than 25% recovery in 1999. However, Ireland still remained below 25%.

#### 4.3.2. Exceeding maximum requirements

The following Member States achieved levels of recycling in 1998 or 1999 that exceeded the 2001 maximum requirement of 45% recycling: Belgium, Denmark, Germany, the Netherlands, Austria, Finland and Sweden. All of these Member States except Finland also exceeded the maximum 2001 requirement of 65% recovery<sup>164</sup>.

### 4.4. Material-Specific Recycling

The achievements of Member States in 1997, 1998 and 1999 in terms of the material-specific recycling of glass, paper, metal and plastic packaging waste are shown in Table 4 and Figure 7.

As was stated previously, Article 6(1) of Directive 94/62/EC requires that in 2001 a minimum of 15% recycling will be achieved for each packaging material. Article 6(5) of Directive 94/62/EC allows Greece, Ireland and Portugal to postpone the attainment of this target to 2005.

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<sup>164</sup> Austria, Belgium and the Netherlands notified the Commission according to Article 6(6) of Directive 94/62/EC of national measures to set higher targets than the targets in the Directive. In Decisions 1999/42/EC, 1999/652/EC and 1999/823/EC respectively the Commission confirmed these measures.

#### *4.4.1. Glass Packaging Recycling*

On average across the whole of the European Union<sup>165</sup>, the total amount of glass packaging recycling has increased from 7.4 million tonnes (or about 50% of waste arising) in 1997 to 8.5 million tonnes (or about 55% of waste arising) in 1999. All Member States achieved more than 15% recycling for glass packaging in 1997, 1998 and 1999.

#### *4.4.2. Paper Packaging Recycling*

On average across the whole of the European Union, the total amount of paper/fibreboard packaging recycling has increased from 13.9 million tonnes (or about 60% of waste arising) in 1997 to 15.9 million tonnes (or about 62% of waste arising) in 1999. All Member States except Ireland<sup>166</sup> in 1999 achieved more than 15% recycling for paper/fibreboard packaging in 1997, 1998 and 1999.

#### *4.4.3. Metal Packaging Recycling*

On average across the whole of the European Union, the total amount of metal packaging recycling has increased from 1.9 million tonnes (or about 44% of waste arising) in 1997 to 2.1 million tonnes (or about 47% of waste arising) in 1999. Most of the Member States in the EU12 (i.e. excluding Greece, Ireland and Portugal) achieved more than 15% recycling for metal packaging in 1997, 1998 and 1999. Exceptions are Italy for all three years, Luxembourg for 1998 and Finland in 1997. Among the three countries, for which the 15% target only applies by 2005, Ireland also achieved more than 15% in 1999. Greece achieved 11% in 1999 as in 1998, down from 13% in 1997 whereas Portugal failed to recycle more than 1% of its metal packaging waste in 1998 or 1999.

#### *4.4.4. Plastic Packaging Recycling*

On average across the whole of the European Union, the total amount of plastic packaging recycling has increased from 1.6 million tonnes (or about 17% of waste arising) in 1997 to 2.1 million tonnes (or about 21% of waste arising) in 1999. Only Belgium, Germany, Italy, Luxembourg, the Netherlands, Austria and Sweden achieved more than 15% recycling for plastic packaging in 1999.

### **4.5. Conclusions**

The results shown in this paper make it clear that Directive 94/62/EC has encouraged increases in the recovery and recycling of packaging waste. In addition, although total tonnages of packaging waste continue to increase in most Member States, a decoupling between economic growth and growth of packaging waste has occurred for the EU as a whole and for many individual Member States in the period 1997 to 1999. The Directive had to be implemented by Member States by 1996. It is therefore reasonable to assume that most of the increases in the recycling and recovery of packaging waste from 1997 to 1999 are the direct result of the Directive.

It is possible to make a rough estimate of about €200 million for the environmental savings that have resulted from these higher rates of recycling and recovery, though it is not possible

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<sup>165</sup> This analysis does not include any increases in recycling in Portugal due to a lack of 1997 data.

<sup>166</sup> The 15% target applies for Ireland only by 2005.

to say exactly how much of this is due to the implementation of Directive 94/62/EC on packaging and packaging waste. This calculation is explained in Table 5. A more complete assessment of the effects of the directive is currently not possible, as this would require additional analytical work.

Additionally, the results of a cost-benefit study on possible targets<sup>167</sup> support the feasibility and usefulness of a considerable increase in recycling and recovery targets in the proposed revision of the Packaging Directive<sup>168</sup>.

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<sup>167</sup> RDC/Pira 2001: Evaluation of costs and benefits for the achievement of reuse and recycling targets for the different packaging materials in the frame of the Packaging and Packaging Waste Directive 94/62/EC, [http://europa.eu.int/comm/environment/waste/studies/packaging/public\\_discussion.pdf](http://europa.eu.int/comm/environment/waste/studies/packaging/public_discussion.pdf)

<sup>168</sup> Proposal for a Directive of the European Parliament and the Council amending Directive 94/62/EC on packaging and packaging waste, COM(2001) 729 final, OJ C 103E, 30.4.2002, p.17.

**Annex IV**

Member State	1997	1998	1999
<b>B</b>	1.356.100	1.426.360	1.477.830
<b>DK</b>	906.792	837.927	846.061
<b>D</b>	13.712.900	14.090.200	14.626.800
<b>EL</b>	710.800	794.800	855.500
<b>E</b>	5.834.671	6.318.358	6.239.979
<b>F</b>	11.070.000	11.641.000	11.999.000
<b>IRL</b>	602.197	682.688	704.038
<b>I</b>	9.529.000	10.846.000	11.122.000
<b>L</b>	76.508	77.496	78.511
<b>NL</b>	2.745.000	2.525.000	2.593.000
<b>A</b>	1.269.000	1.115.000	1.130.000
<b>P</b>	838.878 <sup>169</sup>	1.025.025	1.211.172
<b>FIN</b>	418.300	424.100	442.600
<b>S</b>	923.400	955.200	972.000
<b>UK</b>	10.003.325	10.244.000	9.200.244
<b>EU15</b>	59.996.871	63.003.154	63.498.735

Table 1. Packaging Waste arising (tonnes of packaging)

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<sup>169</sup> Extrapolation from 1998 and 1999 data. No data for 1997 are available as the Portuguese legislation only took effect after this date.

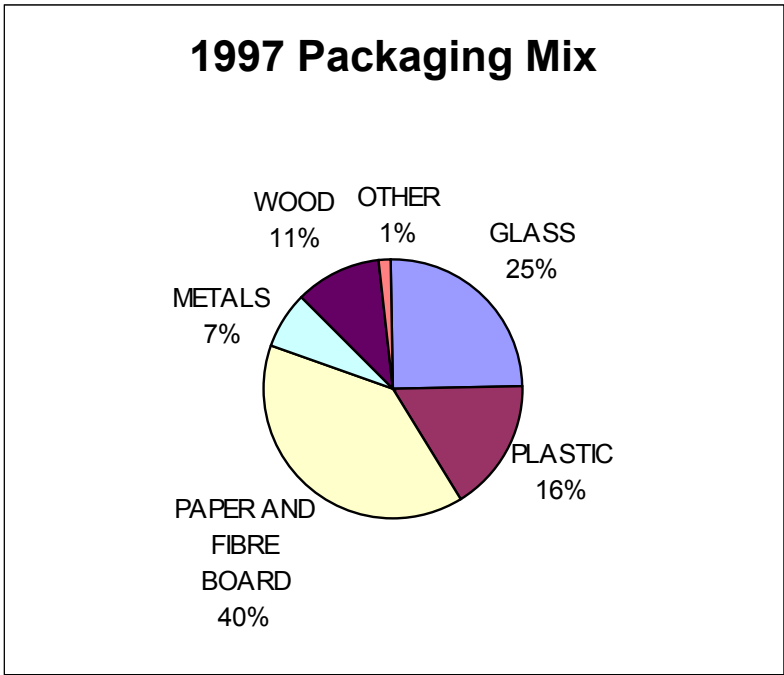


Figure 1: Packaging mix in the EU in 1997.

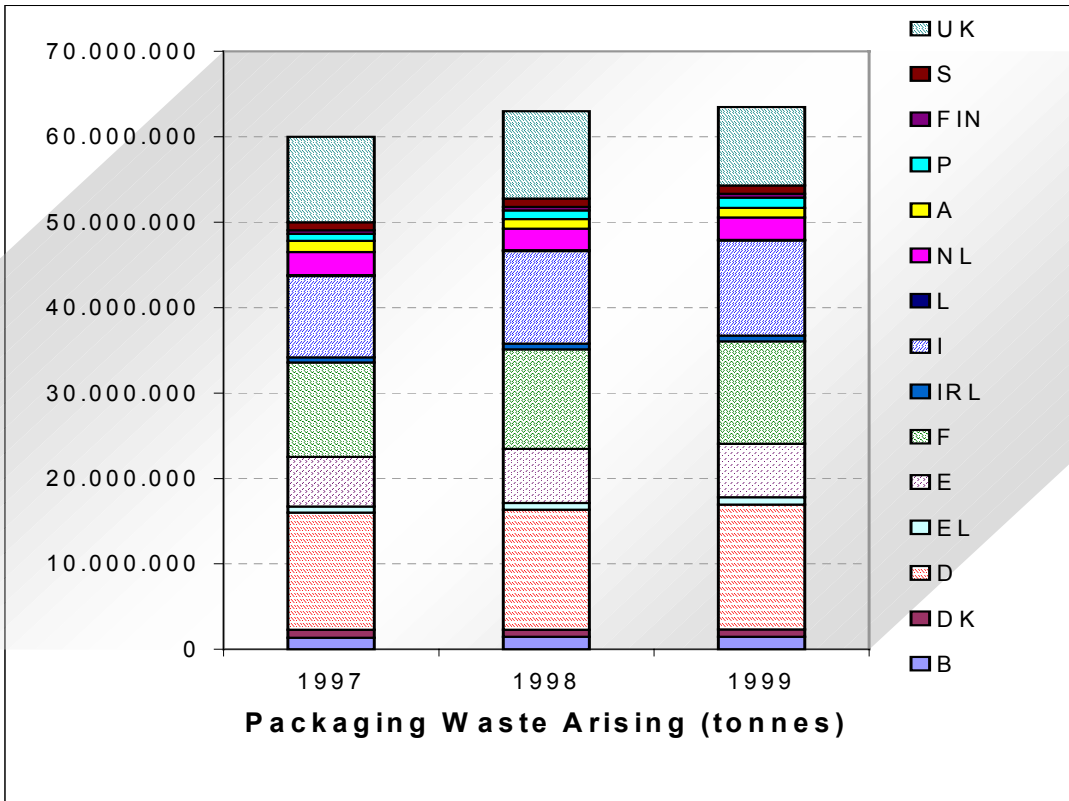


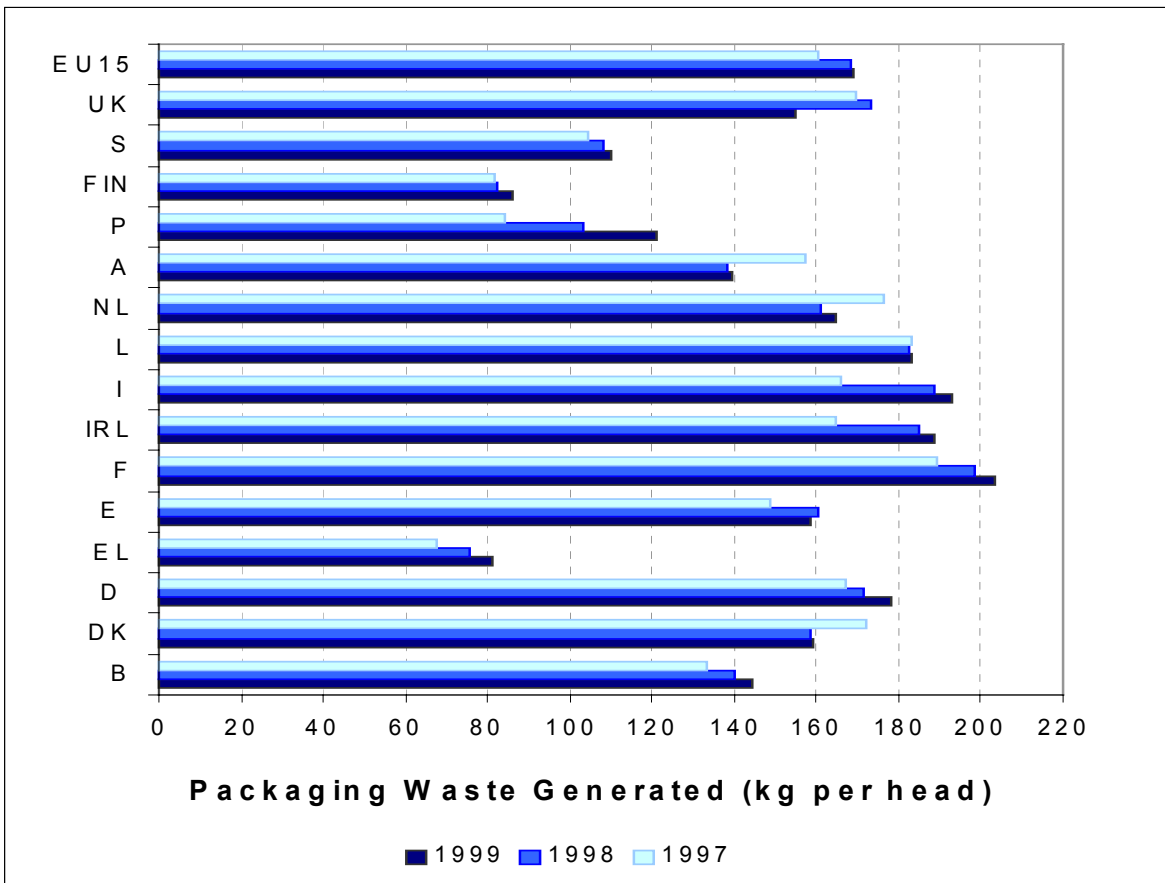
Figure 2: Total amount of packaging waste generation



Member State	Packaging Waste Generated (kg per head of population)			Packaging Waste Generated (kg per 1000 PPS of GDP)		
	1997	1998	1999	1997	1998	1999
<b>B</b>	133	140	145	6193	6211	6166
<b>DK</b>	172	158	159	7399	6578	6354
<b>D</b>	167	172	178	7973	7879	7845
<b>EL</b>	68	76	81	5311	5671	5727
<b>E</b>	148	161	158	9609	9850	9142
<b>F</b>	189	198	203	9627	9672	9484
<b>IRL</b>	165	185	188	8183	8432	7788
<b>I</b>	166	188	193	8382	9221	9121
<b>L</b>	183	183	183	5364	5082	4648
<b>NL</b>	176	161	165	8065	7067	6882
<b>A</b>	157	138	140	7264	6114	5950
<b>P</b>	84	103	121	5869	6777	7548
<b>FIN</b>	82	82	86	4223	4000	3996
<b>S</b>	104	108	110	5293	5254	5076
<b>UK</b>	170	173	155	8580	8383	7167
<b>EU15</b>	161	168	169	8248	8286	7963

Shaded values indicate estimates based on trends have been used where data has not been supplied by Member States in accordance with Decision 97/138/EC.

**Table 2: Packaging Waste Generated Per Capita and GDP**



**Figure 3** Packaging Waste Generated Per Capita

**Table 3:** Total recovery and recycling

Member State	Total Recovery (%)			Total Recycling (%)		
	1997	1998	1999	1997	1998	1999
<b>B</b>	62	73	71	62	64	59
<b>DK</b>	84	89	92	40	50	53
<b>D</b>	83	81	80	81	80	79
<b>EL</b>	37	35	34	37	35	34
<b>E</b>	37	37	42	34	34	38
<b>F</b>	55	56	57	40	42	42
<b>IRL</b>	15	15	17	15	15	17
<b>I</b>	32	34	37	30	32	34
<b>L</b>	51	65	55	51	65	40
<b>NL</b>	78	84	85	55	62	64
<b>A</b>	66	70	72	61	65	66
<b>P</b>		35	35		35	35
<b>FIN</b>	54	55	60	42	45	50
<b>S</b>	65	82	73	58	75	65
<b>UK</b>	27	33	41	24	28	35
<b>EU15</b>	<b>53</b>	<b>54</b>	<b>56</b>	<b>46</b>	<b>47</b>	<b>50</b>

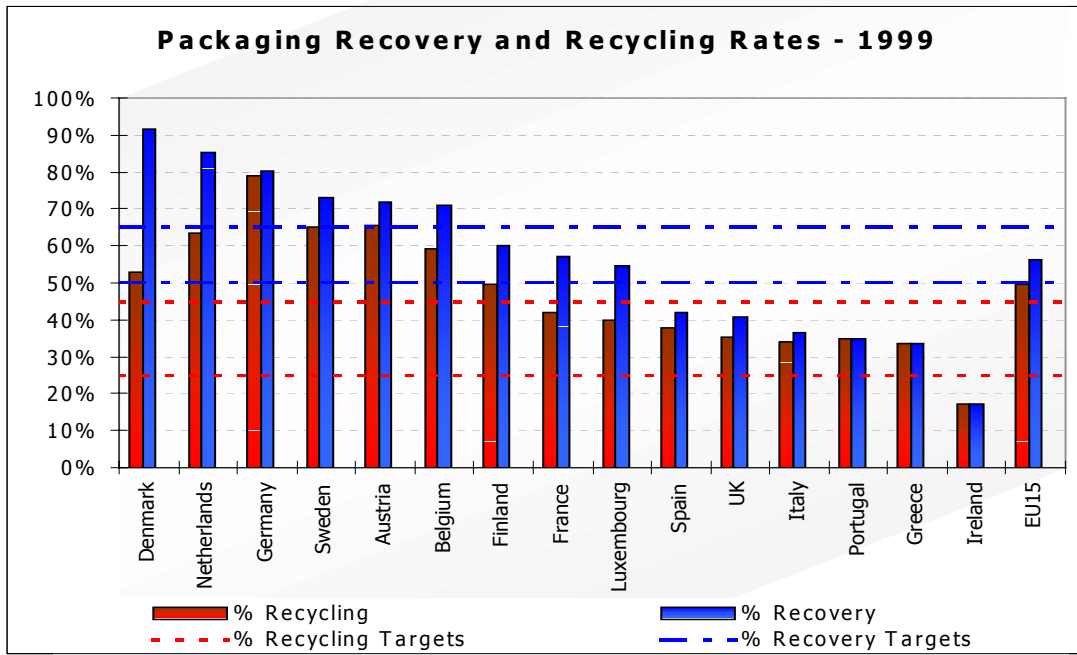


Figure 4: Packaging Recovery and Recycling Rates in 1999

Figure 5: Total recovery

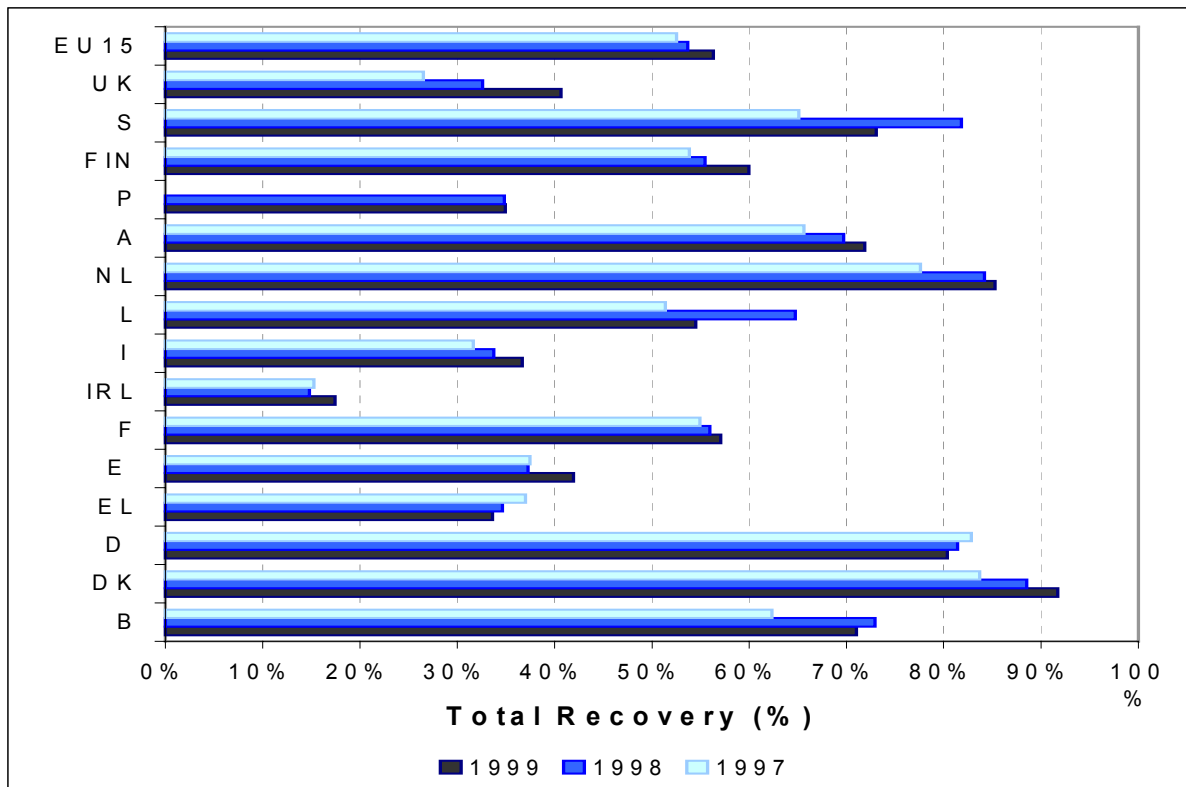
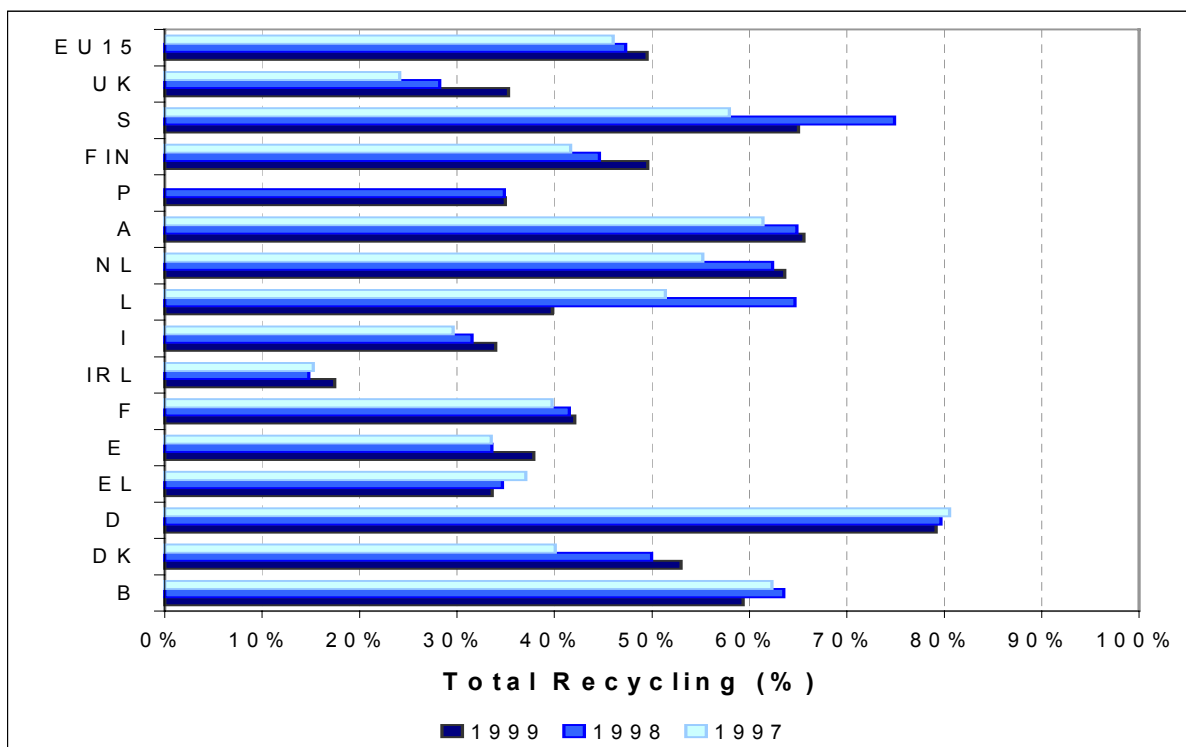


Figure 6: Total recycling



**Table 4:** Recycling per material

<b>Member State</b>	<b>Glass Recycling (%)</b>			<b>Paper Recycling (%)</b>		
	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>B</b>	70	66	75	78	83	70
<b>DK</b>	61	75	85	47	58	59
<b>D</b>	84	85	85	88	88	87
<b>EL</b>	25	21	19	67	66	67
<b>E</b>	37	37	38	52	52	54
<b>F</b>	42	45	50	59	61	59
<b>IRL</b>	34	32	32	17	15	14
<b>I</b>	33	37	40	36	37	39
<b>L</b>	71	80	76	45	49	35
<b>NL</b>	75	85	80	65	70	71
<b>A</b>	77	80	77	75	84	88
<b>P</b>		42	44		48	52
<b>FIN</b>	50	63	78	57	57	61
<b>S</b>	76	84	84	66	84	72
<b>UK</b>	19	23	30	41	47	49
<b>EU15</b>	<b>50</b>	<b>52</b>	<b>55</b>	<b>60</b>	<b>61</b>	<b>62</b>

Member State	Metal Recycling (%)			Plastic Recycling (%)		
	1997	1998	1999	1997	1998	1999
<b>B</b>	70	66	72	25	26	24
<b>DK</b>	16	40	35	6	7	11
<b>D</b>	82	83	82	61	59	59
<b>EL</b>	13	11	11	3	4	3
<b>E</b>	23	22	24	7	9	14
<b>F</b>	49	45	45	6	8	9
<b>IRL</b>	5	4	25	2	3	4
<b>I</b>	5	5	11	10	11	16
<b>L</b>	22	11	42	6	9	26
<b>NL</b>	67	80	78	12	14	18
<b>A</b>	34	38	38	20	27	25
<b>P</b>			1		4	4
<b>FIN</b>	8	15	19	10	10	13
<b>S</b>	45	77	50	14	25	20
<b>UK</b>	24	23	38	6	7	13
<b>EU15</b>	<b>44</b>	<b>43</b>	<b>47</b>	<b>17</b>	<b>18</b>	<b>21</b>

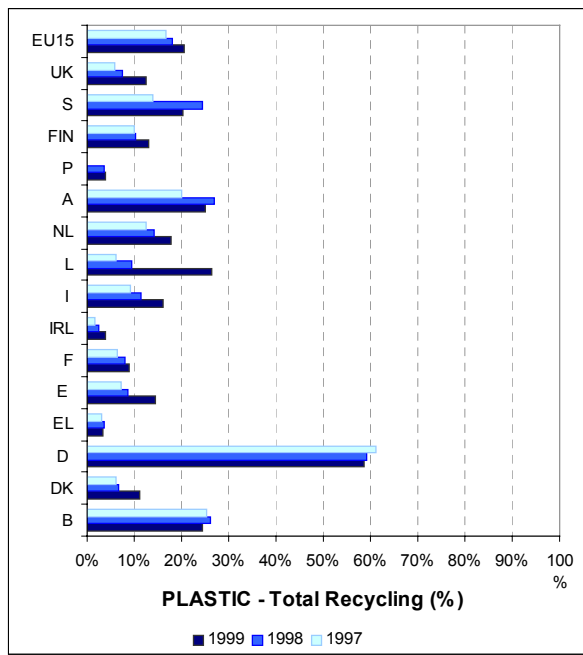
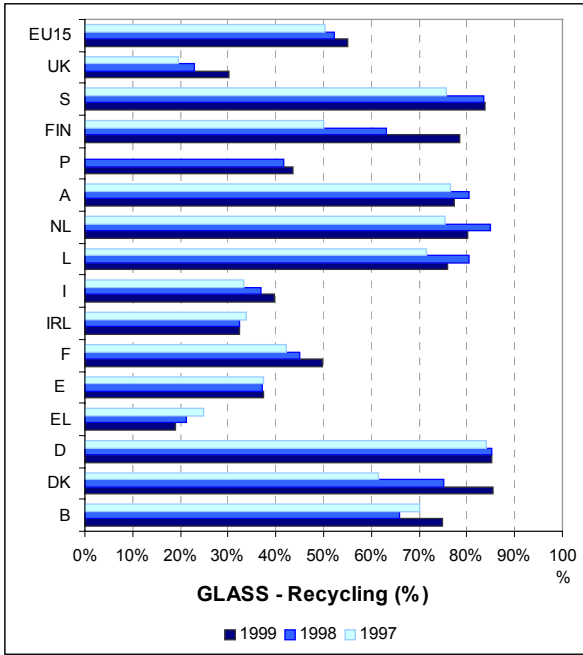


Figure 7: Recycling per material

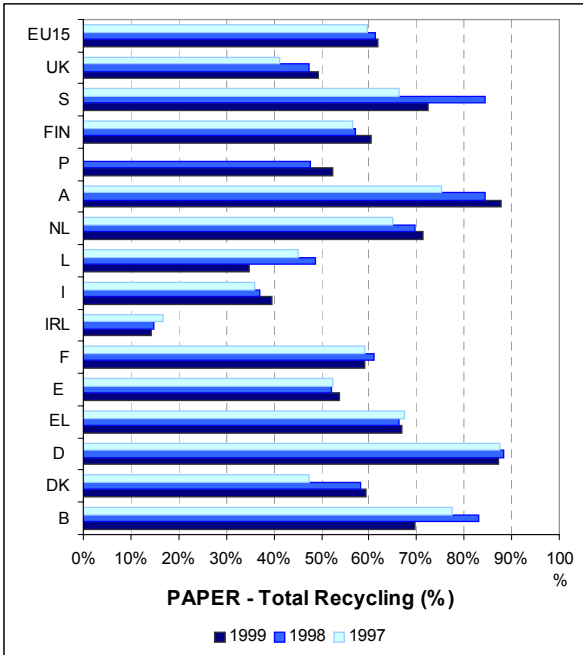
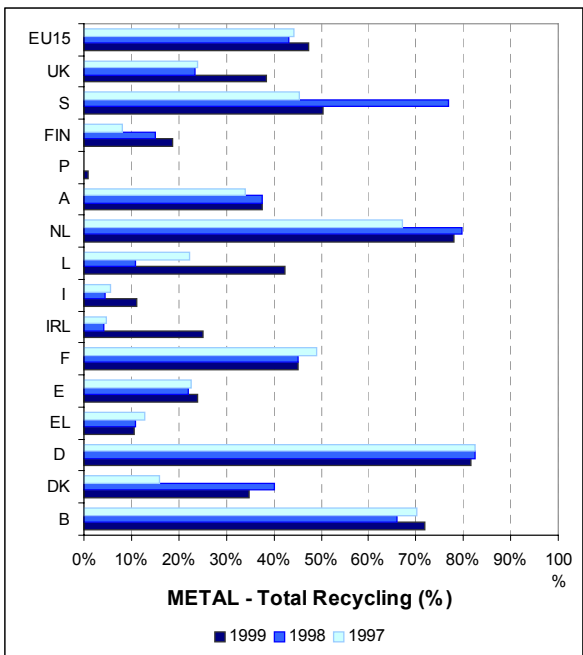




Table 5: Calculation of avoided external costs as a result of increased recycling from 1997 to 1999

<b>Packaging Material</b>	<b>Increase in recycling from 1997 to 1999<sup>170</sup></b>	<b>Saved external costs<sup>171</sup> (€ per tonne)</b>	<b>Total avoided External costs</b>
Glass	0.9 million tonnes	80	€74 million
Paper	1.7 million tonnes	15	€25 million
Metal	0.2 million tonnes	20	€3 million
Plastic	0.5 million tonnes	200	€97 million
		<b>Total</b>	<b>€199 million</b>

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<sup>170</sup> This is the recorded increase in recycling for all EU Member States between 1997 and 1999 except for P, where 1997 data was unavailable

<sup>171</sup> Table 8 of COM(2001) 729 final

## CONCLUSIONS AND PROSPECTS

The aim of this report is to provide the Council, the European Parliament, the Member States and the interested public with information on the progress made in implementing Directives 75/442/EEC, 91/689/EEC, 75/439/EEC, 86/278/EEC and 94/62/EC.

These five Directives for which reports have been worked out in the framework of Directive 91/692/EEC on reporting are quite different in their content and structure. Directives 75/442/EEC and 91/689/EEC constitute general and basic provisions for all wastes and hazardous wastes whereas Directives 75/439/EEC, 86/278/EEC and 94/62/EC contain requirements for specific waste streams – waste oils, sewage sludge and packaging waste – which differ due to their specific characteristics and management issues.

The remainder of this chapter highlights key aspects of the implementation of the Directives during the reporting period 1998-2000 and related prospects.

### 1.1. Waste definition

The definition of “waste” and of related waste management terminology, such as recovery and disposal, are essential elements for the implementation of the European waste management policy as well as for the functioning of the internal market in this field. The Commission, pursuant to Article 1(a) of Directive 75/442/EEC has taken measures to establish a consolidated European Waste Catalogue (EWC), which is now set down in Commission Decision 2000/532/EC<sup>172</sup> as amended by Council Decision 2001/573/EC<sup>173</sup>.

Since the previous implementation report for 1995-1997 the Commission considers that a number of Member States (Austria, Italy, Luxembourg, UK) still do not transpose the waste definition correctly into national law. As regards the definition of hazardous waste in particular, the situation has improved since the last report but it appears that there are still a few Member States that have not fully transposed all the elements of this definition.

According to Article 1(4), second indent, of Directive 91/689/EEC Member States can notify any other waste they consider displaying “hazardous” properties listed in Annex III of the Directive. The Commission received notifications from most Member States and these were reviewed in the context of the adaptation of the European list of wastes and the above-mentioned establishment of the consolidated EWC.

According to Article 1(5) hazardous waste from households is exempted from the provisions of Directive 91/689/EEC. The number of countries that have established separate collection systems for hazardous household waste has increased since the previous report for the period 1995-1997.

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<sup>172</sup> OJ L 226, 6.9.2000, p. 3

<sup>173</sup> OJ L 203, 28.7.2001, p. 18

**Waste oil** is classified as hazardous waste (in chapter 12 and 13 of the hazardous waste list). The waste terminology in Directive 75/439/EEC on waste oils (such as disposal, processing, regeneration and combustion) differs from the framework Directives and the Waste Management Strategy. Thus “disposal of waste oil” means any treatment (processing, destruction, storage and tipping) whereas “disposal of waste” means operations listed in Annex II A such as incineration without energy recovery or landfilling.

Directive 86/278/EEC defines the “use” of **sewage sludge** as “the spreading of sludge on the soil or any other application of sludge on and in the soil”. This definition, combined with the provisions in Directive 86/278/EEC, implies that the use of sewage sludge in agriculture has to be regarded as a recovery operation as defined in Annex II B of Directive 75/442/EEC (R10: Land treatment resulting in benefit to agriculture).

## 1.2. Hierarchy of principles

The hierarchy of principles – waste prevention, recycling, energy recovery and safe disposal - is laid down in Article 3 and 4 of Directive 75/442/EEC and was confirmed in the Community Strategy for Waste Management 1996. The principles of the waste hierarchy are also enshrined in the provisions of Directive 94/62/EC on packaging and packaging waste.

As regards the application of Directive 75/442/EEC on **waste**, questions 2 and 4 asked for the measures to encourage prevention and recovery and the details on waste generation and treatment. From the information provided by Member States, it remains unclear whether and how much waste has been prevented within the European Union over the 1998-2000 period. According to data supplied on waste generation, it appears that household waste per capita has increased as compared to the previous period while hazardous waste is stabilised.

The success of waste recycling differs widely between Member States. The mean recycling rate for domestic waste for the fifteen Member States is 26% (ranging from 8% to 63%). The mean recycling rate for hazardous waste is also about 27% (ranging from 5% to 77%). This indicates an overall increasing tendency although a number of Member States achieve still modest rates of recycling. Furthermore, available data on packaging indicate an increase in recovery and recycling of packaging waste.

As it is not clear how Member States distinguish between incineration with and without energy recovery, both operations have to be considered together. As regards household waste the mean rate was 23%, with Denmark and Luxembourg reporting rates as high as 58% and 56% respectively. Even with energy recovery though, incineration is generally, according to the hierarchy of principles mentioned above, an inferior option to other waste treatment alternatives further up the waste hierarchy, such as reuse and material recycling.

Despite a decreasing tendency, a good number of Member States continue to rely heavily on landfilling as means of disposing their domestic waste, with the average being 45%. The mean rate of landfilling for hazardous waste is lower (22%) but another 27% in average was reported as “other treatment”. Most Member States reported that they had attained high degrees of self-sufficiency in terms of waste disposal of around 99%, which essentially restates the position of the previous implementation report for 1995-1997.

As regards **waste oils**, separate collection is an essential prerequisite for their sound management. The replies to the questionnaires by Member States and independent studies carried out by the Commission<sup>174</sup> revealed that the average collection rate has increased compared to the previous period, however there is room for improvement as 20% of the waste oils is still illegally dumped or illegally burnt, thus strongly harming the environment. In particular some Member States have to improve significantly their collection rates, setting up more efficient collection systems.

The hierarchy of principles for waste oils management – regeneration, combustion and safe destruction/tipping – is still insufficiently implemented. As far as the recovery of waste oils is concerned, the use of waste oils as fuels remains by far the predominant option for the management of waste oils. Regeneration is still very scarce in the EU.

In that context, the Commission has launched infringement proceedings against 12 Member States (see table below) for not applying in practice Article 3 of the Directive, that is by not giving in practice the priority to regeneration. In the course of this exercise it was also pointed out to Member States that some of them had not formally transposed Article 3 into national legislation. For some Member States, the infringement proceedings also included an alleged breach of Articles 2, 4 and 5 mirrored by a poor collection rate.

The main constraints preventing the Member States from giving the priority to regeneration continue to be of an economical nature. The Commission is to assess on a case by case basis if the constraint argued is really such and in doing so it heavily relies on a previous ruling of the European Court of Justice against Germany (C102-97) for failure to give the priority to the regeneration of waste oils.

Parallel to the implementation of Directive 75/439/EEC as amended, a key issue for the management of waste oils in the EU is the existing tax legislation. Based on Directive 92/81/EEC<sup>175</sup> on the harmonization of the structures of excise duties on mineral oils, Council Decision 97/425/EEC<sup>176</sup> authorizes Member States to apply, and to continue to apply, to certain mineral oils when used for specific purposes, exemptions from excise duty<sup>177</sup>. In this context 11 Member States are applying derogations to excise duties for waste oils used as fuels. The Commission is of the view that these derogations are not in line with the application of Article 3 and the priority to the regeneration of waste oils, since they promote the use of waste oils as fuels.

As regards **sewage sludge**, the Commission is of the opinion that the conclusions drawn in the previous consolidated report for period 1995-1997 remain valid. In particular, it considers the use of sewage sludge as fertiliser on agricultural soils as the best environmental option provided that it does not pose any threat to the environment as well as to human and animal health. It appears that the provisions of Directive 86/278/EEC

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<sup>174</sup> Critical review of existing studies and Life-Cycle Analysis on the regeneration and incineration of waste oils, Final report, December 2001

<sup>175</sup> OJ L 316, 31.10.1992, p. 12

<sup>176</sup> OJ L 182, 10.07.1997, p. 22

<sup>177</sup> This Decision has been subsequently repealed. The most recent Decision concerning a list of derogations under Article 8(4) of Directive 92/81/EEC is Council Decision 2001/224/EC of 12 March 2001 concerning reduced rates of excise duty and exemptions from such duty on certain mineral oils when used for specific purposes (OJ L 84, 23.3.2001, p. 23).

have been quite effective in preventing the spreading of pollution because of the use of sludge.

Available figures suggest a slight decline in sludge use in agriculture in the EU, from about 43% in 1995 to 37% in 2000. There are appreciable variations among the different Member States, in some of which the decline in sludge use is rather sharp. The Commission considers that this decline in sludge use in agriculture in favour of incineration is contrary to the waste hierarchy.

The Commission considers that a monitored and well-regulated land spreading of sludge should be encouraged and sustained. At the same time, rules should be strengthened, when necessary, especially taking into account long-term effects on soil quality.

### **1.3. Waste management planning**

Waste management plans are a key element in the Community's waste management policy as, without appropriate planning, Member States are not in a position to be able to account for and deal with the waste that arises in their territories. In addition to directive 75/442/EEC, Article 6 of Directive 91/689/EEC on hazardous waste and Article 14 of Directive 94/62/EC on packaging and packaging waste require also waste management plans for those wastes.

During 1997-2000 the Commission took legal action against several Member States which failed to ensure that waste plans were in place. By the end of that period the majority of Member States had drawn up plans. Problems persist with France, UK and Italy.

With an aim to improve waste management planning in the Member States the Commission has arranged for the preparation of guidelines addressed to national or regional competent authorities. Their publication is expected in the first quarter of 2003.

### **1.4. Waste statistics**

As already stressed in Commission's report for 1995-1997, in order to allow the comparability and evaluation of data, it is necessary that Member States use a common approach on the definition of waste, the waste lists, and the waste management terminology. However this is not yet the case and the following problems are outlined:

- The terms domestic waste (waste from households) and municipal waste (collected by municipalities) are often used as a synonym. However, municipal waste may include, in addition to domestic waste, similar commercial, industrial and institutional waste.
- The data on incineration as disposal operation and on incineration with energy recovery have to be considered together since it is not clear how Member States distinguish these operations.
- "Other treatment" represents a considerable proportion of treatment applied but its definition varies from one Member State to another.
- Member States use different approaches to calculate the quantity of waste oil generated (between 33% and 66% of the marketed oil).

- Information is especially lacking on “other waste”, i.e. all wastes which are not domestic or hazardous wastes and which make up the largest part of generated waste. As a result, it is not possible to provide a clear picture of their composition and handling within the EU.

An important development towards improving the quality of waste data was the adoption in November 2002 by the European Parliament and the Council, of Regulation 2150/2002/EC<sup>178</sup> on waste statistics. This new Regulation aims at establishing a Community framework for statistics, with common definitions and classifications, and should enable better monitoring of waste prevention and establishing linkages between waste generation and resource use. Under the new rules statistics will have to be collected from 2004 and every two years thereafter.

### 1.5. Record keeping

The requirement of keeping records on waste and the waste management constitute the basis for existing waste statistics.

Article 14 of Directive 75/442/EEC requires that establishments and undertakings carrying out recovery and disposal operations have to keep records on the **waste** and the waste management. In addition, Article 4(2) of Directive 91/689/EEC requests producers of hazardous waste and establishments transporting **hazardous waste** to keep records. Further the Directive requires in Article 2(1) specific records on the disposal (landfilling) of hazardous waste.

Most Member States appear to have implemented their record keeping obligations under the aforementioned provisions. Some indicate that they have developed producer-related obligations in addition to those for producers of hazardous waste. The experience gained from Member States in implementing record keeping obligations remains an underdeveloped area.

Article 11 of Directive 75/439/EEC specifies for **waste oils** that Member States can set a minimum quantity (not above 500 litres), above which establishments producing, collecting and/or handling waste oils are obliged to keep records. The limits set range from 0 litre (any quantity to be recorded) to 500 litres (limit value of the Directive).

Article 10 of Directive 86/278/EEC requests up-to-date records on the generation and use of **sewage sludge** as well as the characteristics of the sludge, the recipients and the place of use. As already stated in the previous 1995-1997 report, some Member States do not report the data requested for sludge production as well as quantities used in agriculture and others give only estimates.

### 1.6. Control of waste management

Member States have to establish or designate **competent authorities** responsible for the control of waste management operations. Table 1 of the Annex to Directive 75/442/EEC provides a general overview on the competencies of the national authorities, while Tables 2, 3.1, 3.2 and 4.2 of the Annex to Directive 75/439/EEC provide details on the

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<sup>178</sup> OJ L 332, 9.12.2002, p. 1

responsibilities in the sector of waste oils. The competencies differ largely between Member States which is due to the general differences in the administrative structures.

According to Article 9, 10 and 12 of Directive 75/442/EEC, establishments and undertakings carrying out recovery or disposal operations must obtain a **permit** from the competent authorities. Establishments collecting and transporting waste have to be registered with the competent authorities. Article 11 provides the conditions for exemptions of the permit requirement which are tightened by Article 3 of Directive 91/689/EEC for hazardous waste. As was the case for the previous implementation report, relatively few Member States have implemented the possibility for exempting permit requirements in 1998-2000 and no reasons or advantages have been indicated by those Member States who have done so.

Article 6 of Directive 75/439/EEC requires that undertakings which dispose of (i.e. process, destroy, store or tip) waste oils must obtain a permit. As stated in the previous 1995-1997 report, all reporting Member States, with the exception of Denmark, have established a permitting system for installations managing waste oils.

Appropriate periodic **inspections** are required by Article 13 of Directive 75/442/EEC for all establishments handling waste (inclusive collection, transport, recovery and disposal). Article 4(1) of Directive 91/689/EEC broadens up this requirement to include producers of hazardous waste. Article 13 of Directive 75/439/EEC only requires inspections for undertakings which dispose of waste oils. Therefore the general provisions of the Framework Directives apply in addition for undertakings collecting and transporting waste oils as well as for producers of waste oils. Only the inspections of producers of hazardous waste are part of the questionnaire. From information supplied it appears that the Member States cannot ensure periodical inspections of all generators of waste and national administrations focus on the most important cases.

### **1.7. Infringement proceedings**

The following table provides an overview of **infringement proceedings** initiated or pursued by the Commission under Article 226 or 228 of the Treaty concerning the application of Directives 75/442/EEC, 91/689/EEC, 75/439/EEC, 86/278/EEC and 94/62/EC.

	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxem- bourg	Nether- lands	Portugal	Spain	Sweden	UK
<b>75/442/EEC</b>															
Incorrect transposition of the Directive	Court								RO Court (3 cases)	FN Art. 228 <sup>179</sup>					Court
Unauthorised dumping of waste or other incorrect management of waste		FN			RO		RO Court	Court	RO Court (7 cases)				RO (2 cases) Court (4 cases)		RO
Deficient waste management plans					Court				Court						Court
Other instances of incorrect implementation															
<b>91/689/EEC</b>															
Incorrect transposition	Court	RO			RO										Court
Instances of incorrect implementation					Court		Court (2 cases)		FN				RO		
<b>75/439/EEC</b>															
Incorrect transposition	Court							RO				Court (2 cases)			Court
Instances of incorrect implementation		RO	RO	RO	RO		Court		Court			Court		Court	
<b>86/278/EEC</b>															
Incorrect transposition	Court														
Instances of incorrect implementation									Court						
<b>94/62/EC</b>															
Incorrect transposition	RO			RO		Court					Court				
Instances of incorrect implementation				RO	Court			RO	FN						Court

**Table:** Infringement procedures – status December 2002

FN = Formal Notice according to Art. 228 of the Treaty, RO = Reasoned Opinion, Court = Case decided to be referred before the European Court of Justice or pending before it

<sup>179</sup> Specifically, this action relates to failure to transpose the European waste list correctly, as formerly crystallized in Decision 94/3/EEC, now consolidated in Commission Decision 2000/532/EC, as amended.



## 1.8. Prospects

Despite positive results achieved the progress made with the implementation of Community waste legislation cannot yet be considered satisfactory. The number of infringement procedures reflects well the current state of play. Significant efforts need therefore to put on the full implementation of Directives 75/442/EEC, 91/689/EEC, 75/439/EEC, 86/278/EEC and 94/62/EC, focusing in particular on the hierarchy of principles of waste management.

Two important recent developments relating to the harmonisation of definitions and lists of waste and the establishment of reliable waste databases are worth noting in this regard, namely the adoption of the consolidated European Waste Catalogue and the adoption of the new Regulation on Waste Statistics.

Furthermore, prospective and recent legislative initiatives in the area of waste management, in particular on packaging waste<sup>180</sup>, end-of-life vehicles<sup>181</sup> and electrical and electronic waste<sup>182</sup>, should contribute to improve records in waste prevention, recovery and recycling. The Commission is also currently considering measures to improve the reuse of sewage sludge and restore the confidence of the public in that respect. Furthermore, relevant EU Research activities are currently supported under the 6<sup>th</sup> Framework Programme, within the policy-oriented priorities.

As regards the current reporting system on waste legislation, this is based on the so-called standardised reporting directive 91/692/EEC. In the light of the 6<sup>th</sup> Environment Action Programme<sup>183</sup>, which underlines the need to create a better knowledge base for environmental policy, the Commission envisages creating a more coherent and effective system to ensure reporting of high quality, comparable environmental data and information.

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<sup>180</sup> COM(2001)729final Commission proposal for a Directive of the European Parliament and of the Council amending Directive 94/62/EC on packaging and packaging waste.

<sup>181</sup> Directive 2000/53/EC of the European Parliament and Council on end-of-life vehicles, OJ L 269, 21.10.2000, p.34.

<sup>182</sup> Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment, OJ L 037, 13.02.2003, p. 24.

<sup>183</sup> OJ L 242, 10.9.2002, p. 1