33.
COMMUNICATION
of the Waste Management Department of the Ministry of the Environment on publishing the "Waste Management Plan of the Czech Republic" (including the Binding Part stipulated in Government Regulation No. 197/2003 Coll.)

WASTE MANAGEMENT PLAN OF THE CZECH REPUBLIC

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I.
INTRODUCTION

1.1. Scope and term of the Waste Management Plan of the Czech Republic

a) The Waste Management Plan of the Czech Republic (hereinafter "WMP CR") stipulates the objectives and measures for waste management in the territory of the Czech Republic, in accordance with the principles of sustainable development;

b) WMP CR shall apply to management of all wastes, except for wastes set forth in § 2 (1) (a) to (h) of Act No. 185/2001 Coll., on waste and on amendment to some other laws, as amended (hereinafter the "Act on Waste");

c) WMP CR shall be a basic document for drawing up regional waste management plans. The Binding Part of WMP CR shall be a basis for decision-making and other activities of the competent administrative bodies, regions and municipalities in the area of waste management (§ 42 (5) of the Act on Waste);

d) WMP CR has been drawn up for a period of 10 years, i.e. from 2003 to 2012, and shall be amended immediately after each fundamental change in the conditions on the basis of which it was drawn up.

1.2. Structure, contents and articulation of the Waste Management Plan of the Czech Republic

a) The structure and content of WMP CR follows from the provisions of § 41 and § 42 of the Act on Waste, § 26 of Decree No. 383/2001 Coll. of the Ministry of the Environment, on the details of waste management, Act No. 477/2001 Coll., on packaging and on amendment to some laws (hereinafter the "Act on Packaging"), including the relevant implementing regulations and also the applicable Directive of the European Communities (hereinafter "EC"), draft EC Directives and other related documents;

b) WMP CR is divided to 4 basic parts:

- I. Introduction
- II. Evaluation of the State of Waste Management in the Czech Republic
- III. Binding Part
- IV. Directive Part,

The **Introduction** contains basic information on the scope, term, structure and content of WMP CR. Furthermore, it deals with demography and geography of the Czech Republic, the state of the economy and the development of waste management planning in the territory of the Czech Republic;

The **Evaluation of the State of Waste Management in the Czech Republic** provides a survey of the current manner of waste management in the territory of the Czech Republic and other activities that affect the area of waste management, a comparison of the state of waste management in the Czech Republic with the EU members countries, etc. This Chapter concludes with a survey of the key issues of waste management in the Czech Republic;

The **Binding Part** is an integral part of the legislation of the Czech Republic and constitutes an Annex to the Government Regulation on WMP CR; it deals with the general aspects of waste prevention, recovery and safe disposal of waste; furthermore, it stipulates specific principles, objectives and measures to limit the volume of waste and the hazardous properties thereof; particular attention is given to wastes and activities listed in § 42 of the Act on Waste,

The **Directive Part** provides a survey of instruments intended for fulfillment of the set objectives, the system of management of changes in waste management, a justification of the proposed measures, a survey of indicators for monitoring of changes in waste management, and a proposal for elaboration of WMP CR, including a survey of draft EC Directives in the area of waste management that will be binding on the Czech Republic as a EU member country.

1.3. Geographic, demographic and territorial characteristics of the Czech Republic

a) Geographic characteristics of the Czech Republic:
the Czech Republic is an inland country with the area of 78 866 km^2 (21^{st} largest in Europe). The territory of the Czech Republic is divided among the watersheds of the North, Baltic and Black Seas. The average altitude of the Czech Republic is 430 m. a.s.l. From physical and geographical viewpoints, the Czech Republic includes two mountain systems – the Czech Uplands in the West and the Western Carpathians in the East. The climate of the Czech Republic is characterized by mutual infiltration and combination of oceanic and continental effects and by westerly winds and intensive cyclonal activities;

b) Demographic characteristics of the Czech Republic:
the Czech Republic has a population of 10 206 436 (as of December 31, 2001). The average lifespan is 70.4 years for men and 77.3 years for women. According to a projection of the trends in the population drawn up by the Czech Statistical Office (hereinafter "CSO"), the number of inhabitants will not increase until 2012. The estimate for 2020 is between 9 851 000 and 10 180 000 inhabitants;

c) Territorial division of the Czech Republic:
according to the system of statistical territorial classification used in EU, the Czech Republic is divided into 8 NUTS 2 units (the scope of a NUTS 2 unit corresponds to a territory of several regions) and 14 NUTS 3 units (the scope of a NUTS 3 unit corresponds to a territory of 1 region) – see Graph 3. Territorial and demographic information on the individual regions of the Czech Republic is given in Table 1 and Graph 1. There is a total of 6 258 municipalities in the Czech Republic. A total of 2 115 414 inhabitants live in cities with over 100 000 inhabitants; these cities include Prague, Brno, Ostrava, Plzeň and Olomouc. 3 402 786 inhabitants live in 126 towns with over 10 000 inhabitants. Overall, 54 % of the population of the Czech Republic lives in towns and cities with over 10 000 inhabitants. There is a total of 6 127 municipalities with less than 10 000 inhabitants, of which the average population is approx. 2000. 206 new authorities have been formed, consisting of Municipal Authorities with extended competence. Certain competence of the former District Authorities which were cancelled as of December 31, 2002, was transferred to these authorities.

1.4. Structure and state of economy of the Czech Republic

a) Structure of economy of the Czech Republic:
the Czech economy as a whole has undergone a substantial structural change during the last decade. The contribution of agriculture and industry to creation of the gross domestic product (hereinafter "GDP") has decreased (from 7.7 % to 3.4 % and from 34.5 % to 31.8 %, respectively) with a simultaneous increase in the contribution of the service sector (from 41.8 % to 49.7 %). The structural changes in individual sectors were affected especially by the following factors: reduction of mining of fuels, metallurgy and heavy chemistry; the process of restructuring of the sector of heavy engineering; reduction of the contribution of agriculture to overall economic activities and development of tourism;

b) State of economy of the Czech Republic:
the process of transformation of ownership forms in the Czech Republic after 1989 is regarded as uncompleted. The Czech Republic is considered to be a country with a functional open market economy. The contribution of the non-governmental sector to creation of GDP equaled 80 % in 1997 and has further grown. The main structural change in the Czech economy consists in an increase in the volume of services which contribute to creation of GDP by approx. 50 %, at the expense of the production sector (Graph 2). The inter-annual growth of GDP, as the basic indicator of development of national economy, grew during the 1998-2002 period after dropping in 1998. The productivity of labor has grown in the entire national economy since 1992.

1.5. Development of planning in the area of waste management in the territory of the Czech Republic

a) 1991:
the first Act on Waste in the territory of the Czech Republic entered into effect, imposing on waste generators the duty to draw up waste management programs. This duty applied to some business entities and municipalities (according to the limit of waste production), districts and the state. Data collected within the waste management programs of waste generators were the basis for drawing up waste management programs of the given municipality and subsequently of the individual districts and the state;

b) 1995:
the Waste Management Program of the Czech Republic was discussed by the Government, based on the waste management programs of districts. The discussed document was not employed and thus the planning process in the area of waste management was not commenced in the scope required;

c) 1998:
the new Act on Waste, stipulating the duty to draw up the Waste Management Conception of the Czech Republic, entered into effect on January 1. This fact corresponded with the decision of the Czech Republic, made in 1996, to apply for accession to EU, where an EC Directive already imposed on the member countries the duty to draw up plans in the area of waste management;

d) 1999:
the Waste Management Conception of the Czech Republic was drawn up and work was commenced on Regional Waste Management Conceptions (hereinafter "RWMC") intended as basic documents for drawing up WMP CR and regional waste management plans (hereinafter "regional WMP");

e) 2001:
preparatory work was commenced on draft WMP CR;

f) 2002:
on December 27, the draft Government Regulation on WMP CR was submitted to the Government for discussion;

g) 2003:
on July 1, Government Regulation No. 197/2003 Coll., on Waste Management Plan of the Czech Republic entered into effect, facilitating the process leading to sustainable waste management.

Table 1: *Territorial and demographic information on individual regions of Czech Republic*

No.	REGION	Area (km^2)	Order in CR	Population	Order in CR	Density of population ($inhab/km^2$)	Order in CR	Number of cities and municip.	Order in CR
1	Capital City of Prague	496	14.	1 160 118	2.	**2 339**	**1.**	1	14.
2	Central Bohemia	**11 015**	1.	1 123 931	4.	102	10.	**1 148**	**1.**
3	Southern Bohemia	10 056	2.	624 568	7.	62	14.	623	4.
4	Plzeň	7 561	3.	549 600	10.	73	13.	506	5.
5	Karlovy Vary	3 314	12.	303 714	14.	92	11.	132	13.
6	Ústí	5 335	7.	819 450	5.	154	4.	448	7.
7	Liberec	3 163	13.	427 396	13.	135	6.	453	6.
8	Hradec Králové	4 758	9.	554 348	9.	115	8.	730	2.
9	Pardubice	4 519	10.	507 176	12.	112	9.	647	3.
10	Vysočina	6 925	5.	518 315	11.	75	12.	394	8.
11	Southern Moravia	7 066	4.	1 124 493	3.	159	3.	304	10.
12	Olomouc	5 140	8.	638 374	6.	124	7.	354	9.
13	Moravia and Silesia	5 554	6.	**1 265 912**	1.	228	2.	302	11.
14	Zlín	3 964	11.	594 060	8.	150	5.	216	12.
	Czech Republic	78 866		10 206 436		129		6 258	

Source: CSO (information as of December 31, 2001)

Graph 1: *Population of the regions of the Czech Republic (%)*

Vysočina Region	**5.06%**
Southern Moravian Region	**11.02%**
Olomouc Region	**6.24%**
Zlín Region	**5.81%**
Plzeň Region	**5.38%**
Karlovy Vary Region	**2.99%**
Southern Bohemian Region	**6.12%**
Central Bohemian Region	**10.96%**
Ústí Region	**8.03%**
Pardubice Region	**4.95%**
Liberec Region	**4.18%**
Hradec Králové Region	**5.39%**
Capital City of Prague	**11.46%**
Moravian and Silesian Region	**12.41%**

Source: CSO

Graph 2: *Trends in the structure of economy of the Czech Republic in the 1992 – 2002 period*

Contribution of the sector to GDP in %
Agriculture
Industry
Services
Other
1992
2002

Source: CSO

Scheme of fundamental milestones of waste management in the Czech Republic

1991
1st Act on Waste, No. 238/1991 Coll.

1995
Waste Management Program of the Czech Republic

1997
2nd Act on Waste, No. 125/1997 Coll.

1999
Waste Management Conception of the Czech Republic

2001
3rd Act on Waste, No. 185/2001 Coll.
1st Act on Packaging, No. 477/2001 Coll.

2003
WMP CR
Government Regulation No. 197/2003 Coll.

Source: ME

Graph 3
Statistical division of the Czech Republic to NUTS II and NUTS III regions

Source: Regionální rozvojová agentura Ústeckého kraje, a.s. (Regional Development Agency of the Ústí Region), T–Mapy spol. s r.o., Shocart Zlín s.r.o.

Graph 4
Administrative arrangement of the Czech Republic Regions (14), Municipalities with extended competence (206)

Source: Regionální rozvojová agentura Ústeckého kraje, a.s. (Regional Development Agency of the Ústí Region), T–Mapy spol. s r.o., Shocart Zlín s.r.o.

II.
EVALUATION OF THE STATE OF WASTE MANAGEMENT IN THE CZECH REPUBLIC

The Part entitled Evaluation of the State of Waste Management in the Czech Republic was drawn up in accordance with § 26 of Decree No. 383/2001 Coll., on the details of waste management, and provides survey of the current manner of waste management in the territory of the Czech Republic and other activities that affect the area of waste management, including comparison of the state of waste management in the Czech Republic with the EU member countries. A survey of key issues of waste management in the Czech Republic is given at the end of the chapter.

2.1. Waste production

a) an overall survey of waste production in the Czech Republic is given in Table 2; the sectors of energy production, industry and agriculture make the greatest contribution to waste production;

Table 2: *Waste production in the Czech Republic from the viewpoint of origin according to OECD classification in the 1998-2002 period*

Group of wastes	Production (thous. tons p.a.)				
	1998	**1999**	**2000**	**2001**	**2002[1)]**
Waste from agriculture and forestry	8 124	7 175	7 499	5 935	5 783
Waste from mining activities	600	2 351	2 566	2 285	597
Industrial waste	8 900	8 867	7 778	9 040	9 601
Waste from energy production (excluding radioactive waste)	10 409	4 941	9 704	8 891	6 382
Municipal waste	4 535	4 200	4 258	4 243	4 747
Other waste[2)]	11 550	7 935	8 805	8 300	11 533
Total	**44 118**	**35 469**	**40 610**	**38 694**	**38 643**

Source: Waste Management Information System (hereinafter "WMIS")

1) preliminary results
2) all other wastes according to Annex No. 1 of Decree of the Ministry of the Environment No. 381/2001 Coll., (hereinafter the "Catalogue of Waste") that are not included in the above groups of waste

b) production of hazardous waste:

- the overall production of hazardous waste has varied from 2.4 to 3.9 mil. tons of waste during the last 5 years (Table 3). 50 % of this amount was produced by industry. Examples of some main industrial flows of hazardous wastes are given in Table 4;
- hazardous wastes from health and veterinary care contribute to the overall production of hazardous waste by only 0.66 %; nevertheless, they represent a substantial danger from the viewpoint of effect on human health and the environment. These wastes are perceived as a growing issue given their infectious and toxic nature. The consumption of single-use medical instruments and protective means for health-care personnel has been increasing;
- the amount of hazardous waste separated from municipal waste equals less than 1 % of the overall production and thus indicates low effectiveness of the system of separate collection of hazardous components separated from municipal waste;
- comparison of the production of hazardous waste with the EU member countries is not favorable for the Czech Republic, as it is 3 to 4 times greater than in the EU countries. Amongst other things, before December 31, 2001, this was a result of a different system of waste classification according to categories, i.e. the Catalogue of Waste was not in accordance with the EC Waste Catalogue. This was a consequence of the precautionary principle – the list of hazardous waste in

the Czech Republic contained 156 more kinds of waste than the list of hazardous waste valid in EC. Another reason for the high fraction of production of hazardous waste lay in the structure of industry and economy in the Czech Republic. The current Catalogue of Waste, valid as of January 1, 2002, including the List of Hazardous Waste, fully corresponds to the applicable EC Directive. It was mainly this legal regulation that caused a decrease in production of hazardous waste in 2002.

Table 3: *Production of hazardous waste in the Czech Republic in the 1998-2002 period*

Year	Production of hazardous waste (thous. tons p.a.)
1998	3 900
1999	3 032
2000	3 083
2001	3 136
2002[1)]	2 409

Source: WMIS
1) preliminary results

Table 4: *Main groups of industrial hazardous wastes produced in the Czech Republic*

Group of wastes	Production (thous. tons p.a.)		
	1999	2000	2001
Polluted construction waste	194.9	190.7	120.3
Waste containing oils and petroleum substances	139.2	115.8	98.5
Alkalis	117.2	106.6	119.7
Waste oils	74.3	85.3	81.1
Sludge from condensing processes (from special chemical treatment of industrial waste)	30	35.4	35.5
Lead storage batteries	24.8	15.9	12
Acid pickling solution (from surface treatment of metals)	19	24.2	21.2
Tars and waste containing tars	15.8	15.6	19.9
Sludge from pollution collectors	14.3	19.4	32.6

Source: WMIS

Note: *Table 4 includes only selected groups of hazardous wastes that pose major risks given their effect on human health and the environment.*

2.2. Relations between waste production and waste management

a) the manner of waste management in the Czech Republic is described in Table 5; the groups of waste are classified according to the OECD system. Table 6 gives a survey of waste management classified in a different manner, including only recovery, incineration and landfilling. The manner of management of hazardous waste is described in Table 7.

b) a survey of management of hazardous waste from health care is described in Table 8. Hazardous wastes from health care are predominantly disposed of by incineration (73.0 %). According to data provided by WMIS, a total of 21 incinerators (installed in hospital facilities) were operated in 2001 with the overall designed capacity of 13 100 tons p.a. These include incinerators with a low capacity of up to 500 tons p.a. (13); only a single incinerator of hospital waste has a capacity exceeding 1000 tons p.a. Waste from health care is also incinerated in other incinerators of hazardous waste. Management of

waste from health care includes not only its safe disposal, but also prevention and separate collection of individual types of waste. The requirements for management of waste from health care facilities were summarized in a methodical instruction drawn up by the Ministry of Health in accordance with the Declaration of the EC Council of May 7, 1990. This methodical instruction supplemented the generally binding regulations issued by the Ministry of Health and Ministry of the Environment.

Table 5: *Manner of waste management in the Czech Republic – classification according to OECD groups in 2001*

Group of wastes	Manner of waste management (thous. tons p.a.)							
	Physical and chemical procedures	Biological procedures	Incineration	Landfilling	Recovery as secondary raw material	Storage	Export	Total
From agriculture and forestry	77	2 809	38	20	1 561	204	0	4 709
From mining activities	82	49	0	488	3 299	19	0	3 937
Industrial	1 780	161	300	1 511	2 622	477	269	7 120
From energy production (excluding radioactive waste)	141	1	15	3 310	2 905	270	1	6 643
Municipal	169	439	383	2 575	424	53	28	4 071
Other waste[1)]	2 191	767	91	2 597	2 249	763	339	8 997
Not specified								3 217

Source: WMIS

1) all other waste according to the Catalogue of Waste not included in the above groups of waste

Table 6: *Waste production and management in the Czech Republic in 2001 (% of the overall waste production)*

Description	other waste		hazardous waste		total waste	
	thous. tons p.a.	%	thous. tons p.a.	%	thous. tons p.a.	%
total production	35 558	91.9	3 136	8.1	38 694	100
treatment or recovery	22 380	57.8	2 050	5.3	24 430	63.1
disposal by landfilling	10 115	26.1	340	0.9	10 455	27
disposal by incineration	743	1.9	83	0.2	826	2.1

Source: WMIS

Note: *The difference between the volume of reported production and the volume of reported management follows from different approach of waste generators to reporting of some secondary raw materials (e.g. metal waste), where they report production, but fail to report management (sale of raw materials).*

Table 7: *Manner of recovery or disposal of hazardous waste*

Manner of management	Amount of waste (thous. tons p.a.)			
	1998	1999	2000	2001
Physical and chemical procedures	1172	713	627	661
Biological procedures	211	289	355	496
Incineration	56	60	63	83
Landfilling	409	467	690	340
Recovery as secondary raw material	932	559	762	615

Storage	184	222	190	228
Import	0	2	20	46
Export	*3*	*3*	71	4
Not specified [a)]	933	717	305	663
Total [b)]	3 900	3 032	3 083	3 136

Source: WMIS

a) data include the amount of waste for which the manner of management was not specified
b) data include overall production

Table 8: *Management of hazardous waste from health care in the 1999-2001 period*

Manner of management	Amount of waste (tons p.a.)		
	1999	**2000**	**2001**
Physical and chemical procedures	3 460	4 127	5 184
Biological procedures	0	0	0
Incineration	12 344	12 637	15 983[1)]
Landfilling	1	14	27
Recovery as secondary raw material	0	1	0
Storage	79	293	314

Source: WMIS

1) Incinerated in all incinerators of hazardous waste

2.3 Evaluation of the network of waste management facilities

The scope of registration of waste management facilities (hereinafter "facilities") valid until the year 2001 pursuant to Act No. 125/1997 Coll. no longer corresponded to the current needs. Inadequate database of individual facilities provided insufficient basic information for determining specific measures within the binding part of WMP CR. Act No. 185/2001 Coll., which entered into effect on January 1, 2002 imposed duties on operators of all facilities, on the basis of which the database will be supplemented and utilized in updating WMP CR.

a) landfilling of waste:
landfilling of waste remains the most frequent manner of disposal of waste. The overall capacity of landfills, both for municipal waste and for other types of waste, including hazardous, is adequate for the near future. A majority of landfills of hazardous waste have been created in the vicinity of major enterprises. This led to their relatively unbalanced distribution over the territory of the Czech Republic. Some generators of hazardous waste are thus placed at a disadvantage in providing for disposal of their hazardous waste. Landfills of other waste have been created predominantly in the vicinity of settlements and thus their distribution is suitable, with several exceptions. The requirements for the subsoil/sealing pursuant to Directive 99/31/EC and the requirements of the amended standard, CSN 83 8034 Landfilling of waste, consisting in degasification of landfills by 2005 at all operated S-OO landfills, and, depending on the results of inspection of development of gas, also at all other closed landfills operated since 1980, when waste classified in groups 02, 03, 04, 19 and 20 was deposited, have not been satisfied to date. According to a survey performed in 2002, a total of 229 landfills, i.e. 61 % (Source: Phare project No. CZ9811-02-02) of the overall number of 352 monitored landfills (classified in groups pursuant to repealed Decree No. 338/1997 Coll.) will not comply with the standards laid down in Directive 99/31/EC as of 2009. The number of facilities intended for landfilling waste has been decreasing since 1991. A rapid decrease in the number of these facilities occurred in 1996, when approx. 1000 landfills operated pursuant to special regulations ceased their activities. 290 landfills were operated in the Czech Republic in 2002 (recalculated for the new groups pursuant to Decree No. 383/2001 Coll., on the details of waste management). These landfills (or operated

containers) have been created predominantly after 1996 and, in most cases, comply with the current legislation valid in the Czech Republic.

- biologically degradable municipal waste
  in 1995, each inhabitant of the Czech Republic produced, on average, 148 kg of biologically degradable municipal waste (hereinafter "BDMP") and the overall production of BDMP in the Czech Republic equaled 1 530 000 tons in 1995. One of the means of achieving the required decrease in the amount of waste deposited in landfills consists in the introduction of a system of separation and subsequent recovery of BDMP. The production of BDMP has been determined on the basis of data and types of waste specified in Table 9.

Table 9: *Types of waste according to the Catalogue of Wastes constituting BDMP*

Catalogue Number	Name of the Type	Fraction of biologically degradable component (weight %)
20 01 01	Paper and/or cardboard	100
20 01 07	Wood	100
20 01 08	Organic compostable kitchen waste	100
20 01 10	Clothes	75
20 01 11	Textiles	75
20 02 01	Compostable waste from maintenance of plants	100
20 03 01	Mixed municipal waste	40[1)]
20 03 02	Waste from markets	75

Source: ME

1) The fraction of BDMP in municipal waste in 1995 was specified in the "Report on the State of Biologically Degradable Waste in the Czech Republic" (CEI, 2000) at 41 % wt. The group of waste used for determining the fraction of BDMP, according to classification of waste in the Catalogue of Waste valid in 1995 (Catalogue of Waste attached to Act No. 238/1991 Coll.), included: household and similar waste from municipalities, bulk and similar waste from municipalities, street sweeps and waste from gardens and parks. The collected recoverable components of municipal and similar waste were not monitored separately within the group of municipal waste (code 91). From the viewpoint of BDMP, these include, in particular, waste paper and cardboard.

b) incineration of waste:
incinerators have been created similarly to landfills of hazardous waste, depending on the location of individual generators, especially in the sector of chemical industry. This has led to their relatively unbalanced distribution over the territory of the Czech Republic. In 2001, the WMIS database registered 3 incinerators of municipal waste and 67 incinerators of hazardous waste; operations have ceased in 6 of them. In addition to incineration of waste in special incinerators, waste was also incinerated in 2002 in 4 cement factories. A continuing issue is related to uncontrolled incineration of waste oils in small boilers, in particular by generators of these oils. This issue was resolved by new Act No. 86/2002 Coll., on protection of the air and on amendment to some other laws (hereinafter the "Act on protection of the air") which prohibits such incineration as of June 1, 2004;

- incinerators of municipal waste:
  at the present time, 3 incinerators of municipal waste are operated in the Czech Republic. These incinerators are located in highly populated agglomerations; however, given their high capacity (310 kt p.a., 240 kt p.a. and 96 kt p.a., respectively) the areas served by these incinerators substantially exceed the territories of these agglomerations. 383.3 kt of waste was incinerated in incinerators of municipal waste in 2001, corresponding to 59.3 % of their designed capacity. These incinerators must comply with the emission limit values and other preconditions for operation pursuant to the Act on protection of the air by December 28, 2004;

- incinerators of hazardous waste:

hazardous wastes and wastes from the health care sector are incinerated in incinerators of hazardous waste. A total of 67 incinerators of hazardous waste were operated in the Czech Republic in 2001 with a designed capacity of 113 000 tons p.a. The number of incinerators of hazardous waste has been decreasing and will further decrease, as a majority of these incinerators do not comply with the new requirements of the Act on protection of the air. 59 incinerators were operated in 2002 and, according to the latest survey performed at the beginning of 2003, only 45 incinerators of hazardous waste remain in operation. These incinerators must comply with the emission limit values and other preconditions for operation pursuant to the Act on protection of the air by December 28, 2004. 83 092 tons of hazardous wastes were disposed of by incineration in 2002. Operational costs of incinerators of municipal and hazardous waste are relatively high (compared to both landfilling and other techniques). Therefore, wastes from specific generators (hospital waste, waste from chemical production) are predominantly incinerated in incinerators of hazardous waste. Operators of the above facilities are usually also important (sometimes sole) generators of wastes that are incinerated in the given facility. Waste management balances also include combustion facilities that indirectly fall within this category. These include facilities that also burn alternative (certified) fuels produced from wastes. These facilities include energy blocks, heating plants, etc.;

c) treatment and/or recovery of waste using biological methods:

- biological decontamination
  development of biological decontamination technologies in the Czech Republic is connected mainly with remediation of environmental burdens from the past (usually financed by the National Property Fund). A majority of current facilities deal with degradation of petroleum hydrocarbons. Degradation of halogenated hydrocarbons is less frequent. 48 facilities providing for biological decontamination were registered in the WMIP database in 2001. Their distribution is relatively balanced and corresponds to the localities of waste generation. Given the relatively low investment costs (decontamination facilities are often established at former agricultural premises that are safeguarded from the viewpoint of water management), such facilities may be built in the vicinity of existing pollution, as required;

- anaerobic decomposition and composting
  4 facilities utilizing anaerobic decomposition with an operational capacity of 49 000 tons and 18 composting facilities with a capacity of 245 000 tons were registered in the WMIP database in 2001 (the number of composting facilities is underestimated, as there was no duty to register these facilities);

d) treatment and/or recovery of waste using physical and chemical procedures:
49 facilities were registered in the WMIP database in this category in 2001. Technologies used in this relation, that are classified in this category, represent a very large variety of facilities.
The registered facilities include facilities for separation of liquids (filtration facilities), membrane separation units, centrifuges, evaporators, drying units, etc., as well as facilities intended for management of metal waste, e.g. hydraulic shears, railway track breakers, etc.

- solidification – used for treatment of solid and liquid wastes. 8 facilities with a designed capacity of 67 000 tons p.a. were registered in the WMIP database in 2001. It is difficult to determine realistically the current capacity given the different requirements for treatment of various wastes. The distribution of facilities is substantially unbalanced. Given the fact that ashes from incinerators of municipal waste and hazardous waste may be deposited in single-kind landfills only after their stabilization, the current number and distribution of these facilities is inadequate;
- recovery – 16 facilities of this type were registered in the WMIP database in 2001; these facilities are divided according to the type of technology used for recovery of solvents and recovery of oils. Facilities that are registered in the WMIP database as facilities for oil recovery usually manage transformer waste oils and, given the expensiveness of other manners of management, they also provide for recovery of halogenated solvents.
- separation – five facilities providing for separation of municipal waste are registered in the WMIP database (the actual number of these facilities is estimated at 30). These facilities usually include separation tables where waste is placed on a moving conveyor belt and where the employees separate it by hand. The separated components are recovered and the residual waste is usually disposed of by

landfilling. The WMIP also includes three separation lines in this category, providing for final separation of recyclable waste. The actual number of lines is substantially higher and their number and use is continually increasing;

- recovery of waste as secondary raw materials and recycling thereof equaled 37.5 % of the overall production of waste in 2001. Metal wastes (ferrous and non-ferrous) are predominantly recovered, while certain metal-bearing wastes are used to a lesser degree. Plastic, glass, paper and construction wastes are also recovered, and the volume of ash from power plants recovered in construction industry has also increased. 42 facilities were registered in the WMIP database in this category in 2001. The registered facilities can be roughly divided into facilities managing construction waste and facilities obtaining metals from waste. Construction materials are most frequently recycled with the use of mobile units. This category also includes facilities for recycling of mineral components of construction waste whose current capacity is not fully utilized. According to the official records of wastes, the annual production of construction and demolition waste in the Czech Republic is about 8 000 000 tons, of which 62 % consists of extracted soil; approx. 30 % of construction and demolition wastes are processed and recovered and approx. 65 % are used in reclaiming of excavated spaces or in terrain modifications (Table 10).

Table 10: *Treatment of construction and demolition wastes, according to data provided by recycling facilities (thous. tons)*

Year	Brick debris	Concrete debris	Bitumen	Mixed construction waste	Aggregates	Soils	Other	TOTAL
1999	488.3	466.9	247.7	166.3	476.8	103.8	109.6	2 059.50
2000	589.4	384.6	317.9	79	704	261	249.6	2 585.40

Source: Škopán M.: Potential for recycling of construction waste as a secondary raw material in the construction industry in CR, In. Recycling 2002, Brno

2.4 Evaluation of the state of the business sphere providing for recovery and disposal of waste

Companies operating a business in the area of waste management are considered to be business entities providing for recovery and disposal of waste for the purposes of WMP CR. The conditions for operating a business in the Czech Republic are stipulated in Act No. 455/1991 Coll., on trade.

The Act on Waste uses the concept of an "authorized person"; only an authorized person may accept waste from other entities for the purposes of further management thereof. In addition to the relevant trade license (trade certificate, trade permit certificate), the authorized person must be an operator of a waste management facility, i.e. the authorized person must have the consent of the locally competent Regional Authority for operating the facility.

Business entities that state that one of the activities in the following Sectoral Classification of Economic Activities (SCEA) is one of their basic or auxiliary activities have been selected as a basis for monitoring the state of the business sphere providing for recovery and disposal of waste:

37 20 00 Processing of metal waste and scrap,
37 21 00 Processing of non-metal old materials and residual materials,
90 00 20 Disposal of solid waste.

For the purposes of drawing up WMP CR, it shall hold that companies stating one of the above activities as their object of activities have a trade license authorizing them to operate a business in the area of waste management. Information related to activities pursuant to SCEA 51 50 00 Wholesale of residual materials, waste and scrap is also given in the tables; however, this information is only supplementary.

Information obtained from the available sources, that can be used for describing the status of enterprises providing for recovery and disposal of waste, was used for the description of the state of the business environment exclusively in the framework of SCEA 90 00 20 (Table 11).

Table 11: *Number of business entities under SCEA 90 00 20 in individual regions of the Czech Republic*

Number of employees	none	1 to 9	9 to 49	50 to 99	100 to 499	500 and more	Total
Capital City of Prague	133	69	10	4	4	2	222
Central Bohemian Region	55	22	23	4	3	0	107
Southern Bohemian Region	24	19	14	3	1	0	61
Plzeň Region	27	19	14	4	1	0	65
Karlovy Vary Region	15	4	7	0	1	0	27
Ústí Region	28	20	12	3	7	0	70
Liberec Region	5	12	10	4	0	0	31
Hradec Králové Region	5	9	19	1	1	0	35
Pardubice Region	6	8	11	4	2	0	31
Vysočina	5	5	5	2	2	0	19
Southern Moravian Region	18	22	17	5	3	0	65
Olomouc Region	24	10	7	2	2	0	45
Zlín Region	17	9	12	2	2	0	42
Moravian and Silesian Region	88	27	9	2	4	2	130
Total	450	255	170	40	33	2	950

Source: CSO, 11/2002, Survey of the number of business entities (units) registered by CSO in individual regions (according to the registered office of the unit) and in the Czech Republic that report an activity under SCEA 90 00 20 as one of their main activities and for whom the following status has been established: active, or for whom the level of activities has not been established. The Table does not include 63 entities for whom the number of employees was not stated. The overall number of entities who state an activity under SCEA 90 00 20 as one of their main activities in the Czech Republic equaled 1113 in the given period.

Source: CWM – 550 companies (39.8 %) with activities under SCEA 90 00 20, 345 entities (24.9 %) with activities under SCEA 37 10 00, 107 entities (7.7 %) with activities under SCEA 37 20 00 and 381 entities (27.5 %) under SCEA 51 50 00 were registered in 2001 amongst entities who accepted waste as authorized persons from other entities. A total of 1383 business entities were identified as authorized persons.

WMP CR was drawn up at a time when the process of reduction of the number of individual business entities active in the area of waste management was substantially accelerated. The supply of the relevant activities was concentrated in several major business entities who are connected with foreign capital. In order to enforce their interests and introduce the recent findings in the area of waste management into practice, business entities associate in organizations which participate in creation of laws and other regulations, depending on their importance and activity.

2.5. State of management of selected products, selected wastes and selected facilities pursuant to Parts 4 and 5 of the Act on Waste and other important groups of waste

a) PCBs/PCTs:

the group of polychlorinated biphenyls and terphenyls (hereinafter "PCBs/PCTs") includes a large quantity of substances derived from biphenyl. It is estimated that approx. 21 500 tons of PCBs/PCTs were produced in the Czech Republic from 1959 to 1984. Given the fact that production of substances based on PCB was terminated in the Czech Republic in 1984, it can be reasonably assumed that the number of facilities with PCBs/PCTs is final and will decrease with decontamination and disposal of individual facilities. The volume of waste containing PCBs/PCTs could increase only as a consequence of dispersion of the current PCBs/PCTs into other technical liquids and subsequent contamination of soils in case of accidental escape of these liquids.

b) waste oils:

approx. 150 000 tons of lubricating oils (motor, transmission, industrial and other oils) are currently placed on the market every year in the Czech Republic. Of this amount, approximately 30 000 tons are process oils that are processed as raw materials in production of plastics and rubbers (return rate of 0 %); approx. 10 000 tons are forming and conservation oils, emulsion cutting liquids and white oils, whose return rate is close to 0 % for technological reasons, i.e. the return rate of waste oils can only be related to consumption of approx. 110 000 tons of oils p.a. Used and waste oils are not highly toxic; the following hazardous properties are usually identified for these oils – flammability, irritability, harmfulness for health, capability of releasing dangerous substances into the environment after or during disposal, ecotoxicity. Used and waste oils obtained from motor and transmission oils used in motor vehicles could also contain lead from automobile petrols. Use of leaded petrols is prohibited as of January 1, 2001.

c) used storage batteries and batteries:

the market in consumer batteries and storage batteries was not subject to control in the Czech Republic, and producers and importers were not obliged to demonstrate the quality of cells or batteries by submitting them to an authorized testing facility, and therefore batteries and storage batteries of low quality and undeterminable origin that contaminated municipal waste and subsequently the environment were frequently sold in the market in the Czech Republic. 90 % of the currently used consumer batteries consist of alkaline cells (content of Hg under 0.025 %) and mercury-free Zn-C batteries. The overall annual consumption of batteries and storage batteries of various types in the Czech Republic can be estimated at 100 000 000 items and the consumption of industrial Ni-Cd storage batteries at 60 000 items p.a. Environmental harmfulness of primary cells and batteries is caused by the content of toxic substances (Hg, Pb, Nic, Cd, etc.). Primary cells and batteries contribute by 80 to 90 % of the overall content of Hg in municipal waste.

Table 12: *Registered production of waste from batteries and storage batteries*

Group of wastes	Production (tons p.a.)	
	2000	2001
Total: Batteries/Storage batteries	17 621	13 855

Source: WMIS

d) sludges from waste water treatment plants:

the overall capacity of municipal waste water treatment plants (hereinafter "WWTP") in the Czech Republic increased from 3752.6 thous. m^3/day of waste water in 1999 to 3968.5 thous. m^3/day of waste water in 2001; the volume of treated sewage waste water equaled 296.9 mil. m^3 p.a. in 1999 and increased to approx. 330.3 mil. m^3 p.a. in 2001. 74.9 % of inhabitants are currently connected to sewerage, the number of inhabitants connected to WWTP increased from 6418.5 thous. inhabitants in 1999 to 6693 thous. inhabitants in 2001, corresponding to 65.0 % of the total number of inhabitants in 2001. The number of WWTP equals 1122, of which 1018 are mechanical-biological plants. There is no information on the production of sludges from WWTP of industrial enterprises, unless their waste waters are treated together with urban waste waters in common WWTP. The production of sludges from WWTP (hereinafter "sludges") in total solids equals approx. 200 000 tons p.a. The composition of sludges and other necessary information from WWTP (microbiological indicators, organic pollution, etc.) is not monitored for the purposes of evaluation of the economy of application of sludges from agriculture and the data are not stored; only some data are available and only from major municipal WWTP. Similarly, there are currently no representative data available on the technological equipment for machine dehydration of sludges in individual WWTP. In 2000, the T.G.M. Water Research Institute (TGM WRI) performed a survey in which it established the contributions of the main manners of management of sludges from municipal WWTP (Table 13).

Table 13: *Manners of management of sludges from WWTP*

Manners of management	Contribution to the total production of sludge solids (%)
Direct use in agriculture	27 - 34
Recovery	17
Composting	18 - 24
Landfilling	21
Incineration	1
Other (not specified)	3

Source: WMIS

e) waste asbestos:

asbestos is a proven human carcinogen; asbestos fibers cause asbestosis and cancer of the breathing and digestive apparatus. Therefore, in management of waste asbestos and materials containing asbestos, contamination of the working environment and air must be prevented first of all. It is estimated that there are approx. 3500 types of products containing asbestos – construction materials, flooring and roofing materials, furniture materials, thermal and electric insulation, sealing of gas and liquid distribution systems, brake linings, protective clothes and extinguishers, incombustible textiles, etc. Production of waste containing asbestos in the period from 1999 to 2001 is described in Table 14. It follows from the values given in the table that the volume of production of these wastes is gradually decreasing because the use of asbestos in industry and construction has been limited;

Recycling is the most frequently used (40.2 %) of the individual manners of management of waste asbestos (table 15). This includes recycling of production wastes from processing of asbestos (code 16 02 06) directly within the actual production where these wastes are generated. The resulting product is intended for production of further products. The recommendation for management of waste containing asbestos is given in the methodical instruction of the Waste Management Department of the Ministry of the Environment on management of waste from construction production and of waste from reconstruction and removal of structures, issued in the Journal of the Ministry of the Environment, Volume 9/2003.

Table 14: *Production of waste containing asbestos in 1999 to 2001*

Waste asbestos	Amount of waste (tons)		
(codes of wastes according to Decree No. 337/1997 Coll.)	**1999**	**2000**	**2001**
06 07 01, 10 13 02, 16 02 04, 16 02 06, 17 06 01	2 063	1 617	1 273

Source: WMIS

Table 15: *Management of waste containing asbestos in 2001*

Manner of management	(tons)	(%)
Recycling	512	40.2
Incineration	16	1.2
Landfilling	451	35.5
Recovery as a secondary raw material	21	1.7
Storage	88	6.9
Not specified	185	14.5

Source: WMIS

f) end-of-life automobiles:

compared to EU, the level of use of passenger vehicles is high in the Czech Republic (2.96 inhab./vehicle) (2.4 in Great Britain; 2.6 in Spain; 2.1 in FRG). During the last 12 years the number of passenger vehicles increased in the Czech Republic by 161 %; during the last 4 years, the increase has equaled 10%. The average age of discarded vehicles is 20 years. The number of vehicles discarded in the Czech Republic varies between 100 000 and 130 000 p.a. The main environmental risks include - in addition to the number of end-of-life vehicles - in particular the potential for escape of operational fluids that have the character of hazardous wastes, including, e.g. oils, lubricating fats, non-freezing liquids (ethanol, tenzides), brake fluids (glycols and organic solvents), coolants (ethylenglycol), sodium azide (source of the driving gas in airbags), heavy metals, etc. This issue is timely in particular at scrap yards. End-of-life vehicles are an important source of secondary raw materials. The draft amendment to the Act on Waste accurately defines the conditions for management of these wastes.

Table 16: *Number of registered motor vehicles*

Year	Passenger vehicles and vans	Trucks	Special trucks	Buses	Small motorcycles	Motorcycles
1994	2 967 253	160 793	125 360	22 761	666 352	476 453
1995	3 113 476	182 326	125 176	21 912	667 782	457 560
1996	3 349 008	235 114	119 448	21 460	666 210	439 247
1997	3 547 745	265 598	115 839	20 916	659 951	438 484
1998	3 687 451	312 404	111 030	20 505	645 922	446 350
1999	3 695 792	302 487	104 184	20 013	558 237	401 463

Source: Central register of motor vehicles

g) discarded electrical and electronic equipment:
electrical and electronic equipment includes, in particular, large domestic appliances, small domestic appliances, telecommunication equipment and information technology equipment, consumer equipment, lighting equipment, electrical and electronic instruments, toys, medical apparatus, measuring, monitoring and regulating apparatus, automatic distribution stands and sales machines. Approx. 7 kg of electrical and electronic equipment is discarded in the Czech Republic per inhabitant p.a. in the following structure: audio-video equipment – 2kg per inhabitant p.a., domestic and similar apparatus – 4.4 kg per inhabitant p.a., and computer technology 0.6 kg per inhabitant p.a. In total, this corresponds to approx. 340 000 TV sets, approx. 300 000 refrigerators and freezers and over 1 million mobile telephones. The overall consumption of discharge light sources in the Czech Republic is estimated at 8 mil. items p.a., i.e. approx. 1 120 tons. Importers and producers of lighting products are obliged to provide for re-acceptance of used fluorescent and discharge lamps. The decisive component causing the hazardous properties of the waste is mercury which is present in all types of discharge light sources. Other materials are also present, in particular iron, brass and glass. Glass is the decisive material from the viewpoint of content of waste; products in this category contain approx. 95 % glass. Various technologies are used in the Czech Republic for processing of the given waste, using solidification, chemical stabilization or controlled destruction. According to the available data, the actual capacity of all facilities providing for processing of waste from light sources exceeds the volume of production of these wastes. A system of re-acceptance is currently being developed in the Czech Republic by means of establishing sites for re-acceptance throughout the country. The fraction of re-accepted used lighting products currently equals approx. 15 %;

h) tyres:
according to various estimates, 40 000 – 120 000 tons of used (waste) tyres are generated in the Czech Republic each year. According to data from WMIS, approx. 1/3 of this amount is collected (28 666 tons in 2001). The reason for the major imbalance between the estimates of generation and the recorded amounts can be perceived, e.g. in the high fraction of storage of used tyres or illegal management of these tyres, or overestimation of their production. The balance flows should also include, amongst other things, imports and exports of new and used automobiles, and import, export and disposal of end-of-life

vehicles. In 2001, used tyres were recovered in the following fractions in the Czech Republic, unless they were recapped: material and energy recovery in cement factories in production of clinker (approx. 68 % of all collected waste tyres), recovery as secondary raw materials and recovery for creation of construction layers for various structures (approx. 23 %).

i) products containing poly-vinyl chloride:
poly-vinyl chloride (hereinafter "PVC") is a plastic that was introduced to the market at the initial stages of the use of plastics, in particular as a replacement for classical materials (wood, glass, metals). PVC is currently the second most frequently produced polymer material (after polyethylene). A single entity produces PVC in the Czech Republic. An issue related to production, processing and disposal of products containing PVC consists in the potential for creation of substances characteristic for their toxicity and adverse impacts on animals and plants. For processors of mixed plastics, waste from PVC is an undesirable input material, as it unfavorably affects the mechanical and physical properties of the resulting product;

j) packaging waste:
changes occurred in the past in the area of packaging. New packaging materials and predominantly single-use packages were introduced and increasingly used, leading to an increase in the volume of packaging waste. These packages include, for example, packages for beverages, where returnable packages were replaced by single-use PET bottles, combined packages or single-use glass bottles, with unfavorable environmental consequences. The increase in the number of PET bottles was almost six-fold in the 1995 to 2000 period. On the basis of the Act on Packaging and a voluntary agreement on packaging waste, as of April 1, 1999, an integrated system of management of separated municipal waste has been gradually developed in the Czech Republic by a packaging company. This company was founded directly by the producers and importers of packages or packaged goods for the purpose of establishing and operating the above mentioned system which, on the part of the industry, provides for fulfillment of the statutory duties and, on the part of municipalities, financially contributes to separation of waste. In the framework of this system, the company partially paid for the municipal costs connected with operation of the systems of collection and separation of packaging waste that were introduced by municipalities in the past years at their expense. In the final stage, 581 companies and 2 781 municipalities with a total population of 8 135 238 participated in the activities of the company on the basis of the voluntary agreement. The Act on Packaging, effective as of January 1, 2002, introduced certain measures in the area of prevention and reuse of packages. These measures will continue to be supported and developed;

k) wastes from the production of titanium oxide:
there is a single generator of waste from the production of titanium oxide in the Czech Republic. The main waste streams from this production include emissions of sulphur dioxide and highly acid waste water. Solid wastes following from this production include calcium sulphate (industrial gypsum) and iron disulphate. Gypsum is used for production of white gypsum for the construction industry. The producer has introduced ISO 14 000.

Table 17: *Amount of recovered packages from the total amount introduced to the market or into circulation and the number of inhabitants involved in the waste separation system*

Year	1999	2000	2001	2002
Number of companies	41	307	581	14 758
Packages introduced to the market or into circulation in the Czech Republic (tons)	140 000	753 252	717 227	1 427 947
of which returnable (tons)	93 853	207 564	464 381	938 250
of which returnable (%)	67	28	65	66
of which non-returnable (tons)	46 147	545 688	252 846	489 697
of which non-returnable (%)	33	72	35	34
Share in the market in consumer packages in the Czech Republic (%)	17.60	37	46	85

Number of municipalities involved in the separation system	754	2 156	2 781	3 748
Population	2 136 000	5 632 000	8 135 000	9 200 000
Fraction of population of the Czech Republic (%)	20.70	51	79	90
Amount of recovered waste (tons)	19 800	70 067	152 196	223 080
Yield of separated waste per inhabitant p.a. (kg)	9.27	12.44	18.7	25.30

Source: EKO-KOM, a. s.

2.6. Inter-regional comparison of indicators of the state of waste management

Two basic indicators were selected for comparison of individual regions: production of municipal waste (group 20 of the Catalogue of Wastes) per inhabitant and total production of waste per EUR 1000 GDP (Table 19). Table 20 gives the production rate in kg per inhabitant; this indicator is used in EU for comparison of waste production in individual countries. Data given in Table 21 provide comparison of individual regions in the Czech Republic in relation to waste production in the 2000-2002 period, according to SCEA classification. The Southern Moravian Region is the biggest producer of waste from agriculture and forestry, while the Moravian and Silesian Region is the biggest producer of waste from mining activities, as well as of industrial waste. The Ústí Region is the biggest generator of waste from energy production and the Central Bohemian Region and the Capital City of Prague report the greatest production of municipal waste among all regions; this is directly related to the density and structure of population and, in principle, corresponds to the manner of life and amount of income.

Table 18: *Production of waste according to territorial division to regions in the 1999-2001 period*

Territory, Region	Amount of waste (thous. tons)					
	1999		2000		2001	
	Total waste	of which hazardous	Total waste	of which hazardous	Total waste	of which hazardous
Czech Republic	35 469	3 032	40 610	3 083	38 694	3 136
Capital City of Prague	2 083	209	3 252	139	2 596	227
Central Bohemian Region	5 116	404	6 608	410	6 837	285
Southern Bohemian Region	1 809	152	1 874	289	1 842	334
Plzeň Region	1 731	155	2 061	230	1 707	281
Karlovy Vary Region	923	62	849	37	834	46
Ústí Region	3 503	84	6 062	136	6 011	140
Liberec Region	501	93	640	154	713	120
Hradec Králové Region	923	71	921	61	760	92
Pardubice Region	1 742	64	1 716	82	1 149	84
Vysočina	1 498	60	1 804	110	1 539	60
Southern Moravian Region	2 881	84	3 058	154	2 766	195
Olomouc Region	1 707	112	1 974	148	2 084	147
Moravian and Silesian Region	9 225	1 108	7 859	1 008	8 480	955
Zlín Region	1 827	374	1 948	125	1 376	170

Source: WMIS

Table 19: *Production of waste per unit GDP in the 2000-2002 period*

Region	Production of waste per unit GDP (kg / 1000 EUR GDP)		
	2000	2001	20021)
Capital City of Prague	259	158	836
Central Bohemian Region	1 057	1 163	819
Southern Bohemian Region	622	510	798
Plzeň Region	706	499	737
Karlovy Vary Region	625	528	558
Ústí Region	1 659	1 385	1 502
Liberec Region	325	310	356
Hradec Králové Region	282	250	445
Pardubice Region	742	416	545
Vysočina	568	571	922
Southern Moravian Region	548	421	576
Olomouc Region	770	612	646
Moravian and Silesian Region	1 843	1 240	1 289

Zlín Region	730	436	437

Source: WMIS

1) preliminary values

Table 20: *Production of municipal waste (group 20 in the Waste Catalogue) in the 2000-2002 period*

Region	Production of municipal waste (kg per inhabitant p.a.)		
	2000	**2001**	**20021)**
Capital City of Prague	475	404	483
Central Bohemian Region	520	544	633
Southern Bohemian Region	384	336	461
Plzeň Region	387	344	335
Karlovy Vary Region	484	392	378
Ústí Region	441	408	462
Liberec Region	391	412	709
Hradec Králové Region	310	401	379
Pardubice Region	367	355	725
Vysočina	515	519	371
Southern Moravian Region	358	406	496
Olomouc Region	320	440	350
Moravian and Silesian Region	413	378	355
Zlín Region	410	428	351

Source: WMIS

1) preliminary values

Table 21: *Production of waste from the viewpoint of origin according to the Sectoral Classification of Economic Activities pursuant to the territorial division to regions in the 2000-2002 period, (thous. tons)*

	Capital City of Prague	Central Bohemia	Southern Bohemia	Plzeň	Karlovy Vary	Ústí	Liberec	Hradec Králové	Pardubice	Vysočina	Southern Moravia	Olomouc	Moravia and Silesia	Zlín	Czech Republic
2000															
Waste from agriculture and forestry	29	795	583	867	76	261	96	99	518	1 011	1 284	602	*634*	*644*	*7 499*
Waste from mining activities	0	296	1	1	330	42	1	1	0	1	3	23	*1 867*	*0*	*2 566*
Industrial waste	141	784	376	517	160	589	207	364	326	323	435	366	2 857	335	7 778
Waste from energy production	81	3 513	122	239	22	4 151	*11*	*11*	515	*2*	111	267	598	61	9 704
Municipal waste	531	580	240	213	147	364	168	171	187	268	407	205	528	245	4 258
Other waste	2 471	640	552	224	114	665	157	275	170	199	818	511	1375	663	8 805
Total for the region	3 253	6 608	1 874	2 061	849	6 042	640	921	1 716	1 804	3 058	1 974	7 859	1 948	40 610
2001															
Waste from agriculture and forestry	35	855	617	451	111	181	114	119	248	688	1 128	559	449	380	5 935
Waste from mining activities	0	304	0	2	346	28	1	0	0	3	17	6	1 578	0	2 285
Industrial waste	88	1 081	544	530	76	852	196	228	342	398	473	466	3 475	291	9 040
Waste from energy production	67	937	90	288	19	3 840	38	11	173	2	118	153	705	50	6 491
Municipal waste	469	614	210	189	119	334	177	210	180	269	457	282	479	254	4 243
Other waste	1 937	3 046	381	247	163	776	187	192	206	179	573	618	1 794	401	10 700
Total for the region	2 596	6 837	1 842	1 707	834	6 011	713	760	1 149	1 539	2 766	2 084	8 480	1 376	38 694
2002[1)]															
Waste from agriculture and forestry	18	836	700	443	60	387	132	256	328	447	947	546	414	269	5 783
Waste from mining activities	0	*24*	*1*	*0*	378	55	*2*	*1*	0	10	24	5	97	0	597
Industrial waste	108	556	460	475	77	908	138	331	350	1 357	576	475	3 434	359	9 601
Waste from energy production	64	1 263	407	318	29	3 171	2	150	40	2	41	52	1 072	71	6 382
Municipal waste	561	715	288	184	115	379	303	208	367	192	556	223	448	208	4 747
Other waste	3 774	914	767	467	133	836	132	193	201	214	868	622	2 113	299	11 533
Total for the region	4 525	4 308	2 323	1 887	792	5 736	709	1 139	1 286	2 222	3 012	1 920	7 578	1 206	38 643

Source: WMIS

1) preliminary results

2.7. Evaluation of the current state of affairs in the area of export and import of waste with respect to international commitments of the Czech Republic

a) the regulation of export, import and transit of wastes in the Czech Republic is based on transposition of Regulation (EC) No. 259/93, through which EC implemented the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and Decision of the OECD Council C(92)39/FINAL, on the control of transfrontier movements of wastes destined for recovery operations. The EU legislation strictly distinguishes wastes intended for disposal and wastes intended for recovery;

b) after accession of the Czech Republic to OECD, Act No. 125/1997 Coll., on wastes, introduced a control system consisting in "color lists" where the consent of the Ministry of the Environment is required for import, export and transit of wastes for recovery specified in Red and Amber Lists of wastes and wastes not specified in any of these lists. Wastes destined for recovery that are included in the Green List move across the frontiers between the OECD countries as freely tradable commodities. Upon introduction of the control regime consisting in "color lists", the Czech Republic employed a stricter regime of control compared to Decision of the OECD Council C(92)39/FINAL for a total of 101 wastes (58 wastes from the OECD Amber List were included in the Red List in the Czech Republic and 43 wastes from the OECD Green List were included in the Amber List in the Czech Republic);

c) Council Regulation (EC) No. 259/93 was transposed to the Act on Waste in 2002. For the reason of environmental protection, a stricter control regime corresponding to the Amber List is now employed for only three wastes included in the Green List, which is in accord with the commitment of the Czech Republic to take gradual steps to eliminate differences between the OECD and Czech regulations; this is also permitted in the member countries by Art. 1 (3) (d) of Council Regulation No. 259/93. For 16 types of waste whose control regime was liberalized by the latest legislation, the Ministry of the Environment stipulated criteria in a methodical instruction, under which these wastes may be included in the Green List. A survey of import and export of selected types of wastes in the 1999 to 2000 period is given in Tables 22 and 23;

Table 22: *Import of selected types of wastes ** in the 1999 to 2002 period, (tons)*

Code of waste	Name of waste	1999	2000	2001	2002
10 03 03	wastes from aluminum thermal metallurgy - skimmings	275	74	130	0
10 03 05	alumina dust	468	0	0	0
10 03 10	waste from aluminum thermal metallurgy – waste from treatment of salt slags and black drosses treatment	172	1 075	796	411
10 04 05	dust containing lead	0	0	0	7
10 05 04	waste from zinc thermal metallurgy – other dust	60	83	166	0
16 01 03	tyres	10797	11 462	13 216	4 969
16 06 01	lead batteries	0	655	1 576	1 212
pursuant to Act No. 185/2001 Coll.					
10 03 29*	dust fractions from Al skimmings	-	-	-	162
16 01 03	tyres	-	-	-	1 926

Source: WMIS

Table 23: *Export of selected types of wastes ** in the 1999 - 2002 period, (tons)*

Code of waste	Name of waste	1999	2000	2001	2002
08 04 01	waste adhesives and sealants containing halogenated solvents	71	0	0	0

10 03 03	wastes from aluminum thermal metallurgy - skimmings	756	2 004	2 133	1 712
10 05 03	wastes from zinc thermal metallurgy – flue gas dust	0	669	63	55
10 05 04	waste from zinc thermal metallurgy – other dust	0	146	322	253
10 11 02	waste from production of picture tubes	0	0	0	1 070
11 01 04	wastes from coating of metals – cyanide-free wastes not containing chromium	0	54	0	0
11 01 07	wastes from coating of metals – alkalis not otherwise specified	18	51	45	0
13 03 01	insulating or heat transmission oils containing PCBs	53	19	0	0
14 01 03	other solvents and solvent mixes	362	363	402	191
16 01 99	discarded vehicles – residues from shredding	0	1 400	0	0
16 02 01	transformers and capacitors containing PCBs or PCTs	155	212	97	87
19 02 01	sludge from condensation processes	40	44	56	99
20 01 23	equipment containing chlorofluorocarbons	0	7	0	0
pursuant to Act No. 185/2001 Coll.					
10 03 08*	salt slags	-	-	-	35
10 11 11*	waste from production of picture tubes	-	-	-	543
11 01 07*	alkaline pickling solutions	-	-	-	41
14 06 03*	waste organic solvents – acetone	-	-	-	232
16 01 03	tyres	-	-	-	28
19 02 05*	sludges from physical and chemical treatment	-	-	-	53

Source: WMIS

* *Symbol designating hazardous wastes in the Catalogue of Wastes (ME Decree No. 381/2001 Coll.)*
** *The survey includes wastes that were classified as hazardous pursuant to Act No. 125/1997 Coll., on wastes, and implementing regulations and, from other wastes, only those that are also subject to a control regime pursuant to the Act on Wastes.*

d) export, import and transit of wastes in the Czech Republic is regulated by Part Nine of the Act on Wastes and ME Decree No. 381/2001 Coll. (Catalogue of Waste). The relevant part of the Act will be repealed as of the date of accession of the Czech Republic to EU and Council Regulation (EC) No. 259/93 will be directly applicable in the Czech Republic. Import of wastes to the Czech Republic for the purpose of their disposal is prohibited, subject to several exemptions (§ 54 (3) of the Act on Wastes). Only wastes containing PCBs are exported from the Czech Republic for disposal. It is expected that, after accession to EU, the Czech Republic will maintain the general ban on import of wastes for the purpose of their disposal and will create preconditions for self-sufficiency in relation to disposal of domestic wastes. In relation to wastes intended for recovery, it is prohibited in the Czech Republic to import these wastes for the purpose of their use for energy production (§ 55 (4) of the Act on Wastes) and it is required that domestic wastes are preferentially used within the country (§ 55 (5) of the Act on Wastes). Upon repeal of the relevant part of the Act as of the date of accession to EU, the above provisions will cease to apply. Three types of wastes included in the Green List and simultaneously in Annex No. 10 of Decree No. 381/2001 Coll. (aluminum skimmings, end-of-life vehicles, used tyres) are unilaterally controlled in the Czech Republic and the consent of the Ministry of the Environment is required for their import and export. In case the EU legislation valid as of the date of accession to EU permits this, it is expected that unilateral control will be employed for some of these wastes also after accession to EU.

2.8. Costs of waste management, structure of sources and dynamics of changes therein

a) expenditures for waste management in the 1990-2001 period and implied costs in the subsequent period:

- total investment expenditures
  Investments expended for waste management equaled approx. CZK 33.7 billion in the 1990-2001 period in current prices (Table 24). When expressed annually, the expenditures gradually increased to CZK 4.7 billion in 1997-1998, while in 1999-2000 they fell to half of the amount in the previous two years. In 2001, there was another decrease in investments expended into the area of waste management, to approx. CZK 1.5 billion. These investments were predominantly financed (70-80 %) from internal resources of the investors and from loans (10-14 %). These funds include assistance from the State Environmental Fund of the Czech Republic (hereinafter "SEF CR"). Assistance from the state budget equaled only 4-8 %. Of the total environmental investment, investment expenditures in the area of waste management equaled 7.4 % in 2001, while their contribution to creation of fixed capital equaled 0.2 % in the same year.

Table 24: *Investment in to the area of waste management in 1990-2001*

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Investment –environmentally sound waste management, billion CZK c.p.	1.1	1.43	3.12	2.89	3.13	2.77	3.45	4.77	4.7	2.6	2.27	1.46
Contribution of investments in the area of waste management to total investments for environmental protection in %	18.2	15.3	18.4	14.5	11.1	8.6	9.3	11.8	13.3	9	10.6	7.4
Contribution of investments in the area of waste management to the overall creation of fixed capital in %	0.69	0.79	1.33	1	0.92	0.63	0.69	0.93	0.88	0.49	0.41	0.24

Source: CSO

- investment (capital) expenditures from public resources
  These expenditures have remained approximately at the same level of about CZK 0.8 billion p.a. during the last five years. Investments financed purely from internal resources of private investors (without capital expenditures from public sources) equaled approx. CZK 3.6 billion in the 1997-1998 period and CZK 1.5-1.9 billion in the 1999-2000 period. Investment costs in the period to 2013 were estimated at CZK 1.7-2.6 billion p.a.; in case of extensive growth of waste production this amount would increase by CZK 0.6 billion p.a. In case of maintaining the amount of investments for measures following from implementation of regulations, additional investment expenditures in the next period should attain at least CZK 3.7 – 4.2 billion p.a. in fixed 2001 prices;

- current (operational) expenditures
  Funds in the amount of CZK 3 – 9 billion p.a. were expended by economic entities for treatment, recovery and disposal of waste, of which CZK 1.5 – 2.1 billion p.a. were intended for management of hazardous waste. Almost CZK 5.3 billion were expended from public funds (state budget, state funds, local budgets) for current expenditures in the area of waste management in 2002. Current expenditures had gradually increased to this level from CZK 1.6 billion in 1997 and CZK 3.3 billion in 1999. The main contribution to these expenditures was made by local budget, by almost 93 %. Current expenditures financed purely from internal resources of private investors (without expenditures from public resources) varied around CZK 2-3 billion p.a. (CZK 2.8 billion in 1999; CZK 1.9 billion in 2000). It is estimated that the accrual annual operating costs including capital amortization will increase from CZK 0.5 billion p.a. to approximately CZK 1.9 billion p.a. at the end of the 2003-2013 period.

b) analysis of expenditures from public budgets in the area of waste management:

- state budget
  The expenditures from the state budget in the area of waste management varied around CZK 200 million p.a. (CZK 237.1 million in 2002). A majority of expenditures were current expenditures (90 %

in 2002), of which more than 70 % consisted in expenditures for collection and transport of waste, especially hazardous. Another budgetary item was devoted to expenditures for performance of state administration and monitoring whose amount for the year 2002 was identified at approx. CZK 50 million. By the end of 2003, it is expected that the number of employees performing state administration in the area of waste management will increase to a final number of 530;

- local budgets
  Expenditures from local budgets increased from CZK 2.1 billion in 1997 to CZK 5.4 billion in 2002. The ratio of expenditures for collection, transport and disposal of municipal waste equaled 81-87 % of the expenditures from local budgets for the entire area of waste management (in absolute values, CZK 3.0 billion in 1999, CZK 3.2 billion in 2000, CZK 3.4 billion in 2001, and CZK 4.7 billion in 2002);

Table 25: *Income and expenditures of local budgets in the area of waste management (in CZK million)*

Description of activity	1997	1998	1999	2000	2001
EXPENDITURES – Total waste management	2 083	2 758	3 553	3 864	4 184
INCOME – Total waste management	-	-	1 132	1 795	1 350
of which income from the basic component of the fee for landfilling of waste	493	494	358	400	436
BALANCE: income minus expenditures of local budgets in the area of waste management			-2 421	-2 070	-2 834

Source: MF (ARIS); OECD database

- local budgets – income:
  Income of local budgets from the area of waste management equaled CZK 1.1 – 1.8 billion p.a., of which income from landfilling of waste in a comparable period (1999 to 2000) equaled CZK 360 and 400 million, respectively. The balance of financing of activities connected with waste management in the framework of local budgets was negative in the 1999 – 2001, equal to CZK 2.4 billion p.a. in average. In the future, income for local budgets will be affected by an increase in the rates of the basic component of the fees for landfilling (except for the item "municipalities" pursuant to § 46 (4) of the Act on Wastes). In connection with an increase in the prices of landfilling, there will be a decrease in the volume of waste deposited in landfills which should be dealt with by a potential revision of the rates of local fees for transport, collection and management of municipal waste, if appropriate.

- State Environmental Fund of the Czech Republic
  Expenditures from SEF CR for waste management varied during the 1995-1996 period around CZK 200 million, decreased to CZK 60 – 70 million between 1997 and 1998, and again increased to CZK 362 million in 2001 and CZK 303 million in 2002. The expenditures substantially exceed the income for SEF CR from fees for landfilling of waste (by 7 times in 2001 and by 3 times in 2002). However, compared to the overall income for SEF CR from waste management, expenditures for waste management corresponded to approx. 40 % of the income in the 1994 - --- 1998 period, while in the last two years, they equaled 200 and 250 %, respectively, of the overall income from waste management. Expenditures from SEF CR for waste management varied around 3 % of the total expenditures in the 1995 to 1998 period, in 1999 – 2001 increased to approximately 10 % of the overall expenditures of SEF CR, while in 2002, this ratio equaled 7.4 %. The priority of waste management is clearly increasing within the expenditure policy of SEF CR which is reflected in the increasing expenditures to the area of waste management in 1999–2002. Expenditures for support of investment were predominant in expenditures of SEF CR, equaling 94 to 99 %. A majority of subsidies were allocated to municipalities (81 to 90 % of subsidies in 1999-2002). Business entities obtained 9 to 17 % of total subsidies, while other types of organizations received 2 to 4 % of subsidies, in the form of grants.
  Compared to the 1997 – 2002 period, the income for SEF CR will increase by approx. CZK 1 billion, however, not before 2005; relatively lower funds will be available in the 2003 – 2004 period. Income for SEF CR from fees for landfilling of hazardous waste could be higher by an order of magnitude (under the same conditions) than at the present time (§ 48 (4) of the Act on Wastes). However, the

effect of higher prices of landfilling on a change in the manner of management of hazardous waste will be clear in the future.

Table 26: *Composition of income and expenditures of SEF CR in the area of waste management*

Composition of income and expenditures	1995	1996	1997	1998	1999	2000	2001	2002
Fees for depositing waste, (mil. CZK)	597.6	263.9	55.3	89.7	88.8	53.7	51.7	112.4
Total income from waste management, (mil. CZK)	640	323	140.2	194.6	191.5	144	144.7	232.5
Expenditures for waste management, (mil. CZK)	248.7	145.3	60.5	69.9	242.6	290.8	361.7	303.2
Grants, (mil. CZK)	27.6	57.8	41.5	47.8	191.4	239.8	273.9	277.3
Loans, (mil. CZK)	221.1	87.5	19	22.1	51.2	51	87.8	55.9
Expenditures : fees	0.42	0.55	1.09	0.78	2.73	5.42	7	2.7
Expenditures : total income from waste management	0.39	0.45	0.43	0.36	1.27	2.02	2.5	1.3
Ratio of expenditures for waste management to the total expenditures from SEF CR in %	5.1	3.1	1.8	3	9.3	10	9.5	7.36

Source: SEF CR; ME

- projects, programs and funds of the European Union
  The following projects took place within the Ministry of the Environment in the framework of foreign assistance in the area of waste management:

  Phare project No. CZ9811-02-02 "Implementation/Investment Strategies for EC Waste Directives"). The project contributed to preparation of implementing regulations in the area of waste management (2000 – 2001),
  Phare Twinning project CZ/00/IB/EN/02: Centre for Waste Management – CWM. Austria was the twinning partner of the Ministry of the Environment, in cooperation with Italy and France. The project was concerned with establishment and activities of an expert body in the area of waste management ensuring that Czech Republic was capable of fulfilling the requirements and duties of an EU member country in the area of waste management;

  The Czech Republic utilizes the ISPA Program as a candidate country. The program is an instrument of pre-accession structural policies and thus also constitutes a precondition for the subsequent successful utilization of the Cohesion Fund and structural funds. The projects submitted for approval by the European Commission include, e.g. "Waste Management in the City of Brno" dealing with management of municipal waste. The total budget of the project amounts to EUR 66 million and the requested support from the ISPA fund equals 73 %;

  The LIFE Program is intended to support implementation, improvement and development of the Community policies and legislation in the area of the environment, in particular, with regard to integration of environmental aspects in other policies and achieving sustainable development in EU. The Czech Republic will draw funds from this program after accession to EU;

  After accession to EU, the Czech Republic will be able to utilize financial means from the Cohesion Fund and structural funds in the same manner, as they are currently used by the present member states. The financial means from these funds form a basis for European structural policies and facilitate support for harmonic, balanced and sustainable development of all member countries;

  The total amount of financial means from the EU funds for the area of the environment is expected to equal approx. CZK 5-6 billion p.a. in the 2004 – 2006 period. Drawing up of the Waste Management Plan of the Czech Republic and regional waste management plans with set and approved priorities is a precondition for financing investments in the area of waste management.

- private and public funding
  Another potential source of funding consists in utilization of private funding initiatives, such as the Private Finance Initiative or Private/Public Partnerships. This is based on private investments on the one hand and private contractual operation of public services on the other hand;

c) financing of the costs of waste management – overall summary:

Quantitative relations within the set of instruments providing for investment funding cannot be unambiguously determined and specified for financing in the coming period. The ratio of internal and external funds (loans) will always be variable in relation to private financial resources. Budgets of municipalities will rely on SEF CR, EU funds and the state budget. On the basis of a prognosis of central sources for investment funding (SEF CR, EU funds), it can be assumed that additional investment resources will be required from municipalities, regions and the private sector. The total investment costs in the area of waste management in the period until 2013 are estimated, under the above assumptions, at approximately CZK 36 billion and accrual investment costs following from implementation of the requirements of EU Directives at approx. CZK 26 billion in fixed 2000 prices (CZK 27 billion in fixed 2001 prices). In numeral expression, the following requirements can be assumed for financing investments in the area of waste management:

- state budget CZK 0.5 billion,
- ISPA, CF, SFs CZK 5-6 billion,
- SEF CR CZK 5 billion,
- local budgets CZK 9 billion,
- internal resources, loans and other CZK 15 billion;

The implied expenditures from the state budget for performance of the state administration and monitoring in the area of waste management are given in Table 27. Part of expenditures connected with the state administration is specified within the ARIS system under a separate item designated "Administration in Environmental Protection" (CZK 859 mil. in 2002 for the entire area of the environment). Given the fact that final strengthening of state administration in the area of waste management should be provided for by 2003, no additional financial requirements from public budgets are expected.

Table 27: *Increase in the number of employees for the purpose of performance of state administration in the area of waste management and the related expenditures of the public sector*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of employees, number	346	520	530	530	530	530	530	530	530	530
Other current expenditures (CZK mil.)	4	86	136	131	121	121	121	121	121	121
Other capital expenditures (CZK mil.)	0	24	103	0	0	0	0	0	0	0
TOTAL – state budget (CZK mil.)	54	198	330	222	218	221	224	228	231	234
TOTAL – local budgets (CZK mil.)	117	347	439	338	341	347	354	361	368	376

Source: ME

2.9. Provision of information for execution of public administration in the area of waste management

a) Qualified decision-making processes in the public administration are based on a functional, up-to-date and reliable information model describing the state of waste management in the Czech Republic, operated within a defined legal and informative environment. The area of information, collection and provision thereof is currently regulated in the Czech Republic by the following laws and legal documents:

Act No. 106/1999 Coll., on free access to information.
Government Regulation No. 364/1999 Coll., providing for cooperation of state administrative bodies with municipalities in providing for duties of municipalities under Act No. 106/1999 Coll.
Act No. 123/1998 Coll., on the right to environmental information.
Act No. 148/1998 Coll., on protection of confidential facts.
Act No. 101/2000 Coll., on the protection of personal data in information systems.
Act No. 35/1965 Coll., on literary, scientific and artistic works (the Copyright Act), as amended.
Act No. 365/2000 Coll., on public administration information systems and on amendment to some other laws;
other documents include the "Information Strategy of the Ministry of the Environment for the 2000-2003 Period";

b) factual databases:

- waste management information system (WMIS)
  data provided by waste generators, authorized persons managing waste, including data on facilities for recovery and disposal of waste and data on operators of waste management facilities, and also data on collecting sites for hazardous wastes, collecting sites and storage places for wastes are introduced into a system that is organized hierarchically according to the individual levels of state administration. Furthermore, data on facilities and substances containing PCBs are collected. WMIS also contains data on consents and decisions issued by the Regional Authorities and Municipal Authorities with extended competence in the area of waste management. The collected data are reported on the basis of records and reports on wastes and facilities, Part 6, § 39 of the Act on Wastes. The quality of information in WMIP is ensured by means of a data validation project. Obtaining of high-quality, timely and comprehensive information on facilities had had no basis in legislation until adoption of Act No. 125/2001 Coll. For this reason, information on waste management facilities was incomplete. On the basis of the Act on packaging, data are collected on production and management of packaging waste;

- database of the Czech Statistical Office
  information is created on the basis of surveys organized within the statistics service on the basis of Act No. 89/1995 Coll., on state statistics service. The results of statistical surveys can be interconnected with information from other sources by means of common classifiers, registers and codes. The quality of factual information from statistical surveys is ensured by internal standards of CSO;

- professional information on waste management
  professional information on wastes is collected and disseminated through the Center for Waste Management (hereinafter "CWM"¨) which provides expertise to the Ministry of the Environment.
  A number of specialized journals are issued in the Czech Republic dealing with the environment in general or specifically with waste management.

2.10. Expertise and qualification of employees in public administration in the area of waste management

a) increasing the quality of public administration in the area of waste management
the above is a long-term and complex process facilitated by a reform of public administration, adoption of the Service Act and active preparation for accession to the EU. Accession to the European administrative environment will put fundamental qualitative demands on the public administration of the Czech Republic in the area of increasing expertise and qualification in decision-making. This objective can be achieved by continuous education of employees at all levels of public administration. The requirements for commencement of educational activities in the area of the environment are included in several fundamental documents:

- The State Environmental Policy of the Czech Republic– it defines the environmental requirements for the educational system, both in general and in relation to specific requirements on education of employees in public administration.

- The State Program of Environmental Education and Public Awareness in the Czech Republic – (hereinafter "EEPA") (Government Resolution No. 1048 of October 23, 2000), within its objectives, it formulates the requirement to "provide for appropriate education and knowledge of employees in all sectors and at all levels of public administration in the area of the environment". A substantial aspect of the State Program consists in requirements for creation of differentiated model educational programs for various professional groups of employees and individual target groups of public administration. The most important benefit in the area of education of the public administration will consist in training of all employees of the public administration and public representatives, covering the "environmental minimum".

- Act No. 218/2002 Coll., on service of public servants in administrative authorities and on remuneration of such servants and other employees in administrative authorities (the Service Act).

- The Government of the Czech Republic approved the system of education of employees in public administration gradually through several resolutions.

b) institutions providing for education of public administration:

- The basic institution is the Central Department for Personnel and Educational Activities in Public Administration which is a part of the Office of the Government of the Czech Republic. The Department provides for control, coordination and methodical activities in the area of education in administrative authorities. It methodically directs the Public Administration Institute (hereinafter "PAI") and issues licenses for educational institutes and programs for education of employees in public administration,

- PAI was established by Government Resolution No. 814/2000 as a professional educational facility for public administration in the Czech Republic. The Department for Preparation of Employees in Public Administration of the Ministry of Interior creates and develops the system of professional preparation and education of employees performing public administration within delegated competence. PAI organizes and provides for education of employees of territorial self-governing units and coordinates the education at authorized workplaces,

- The Ministry of the Environment contributes to education of employees performing public administration within delegated competence through expert lectures within the PAI system. The Ministry provides for professional education both for its employees and for general professional public in the framework of workshops and Twinning projects.

2.11. Cooperation of administrative authorities with the general public

a) access to information

a fundamental precondition for public participation in addressing issues connected with waste management consists in enabling access to information on the state and development in this area. In addition to the legislative regulations specified in Chapter 2.10, the right of the public to information and its possible participation in discussing plans of future activities that could affect the environment is laid down by Act No. 100/2001 Coll., on environmental impact assessment. Public participation in the process of assessment of strategic documents is allowed for by Act No. 244/1992 Coll., on environmental impact assessment of developmental conceptions and programs; furthermore, an Act on strategic environmental assessment (SEA) is being prepared on the basis of Directive of the European Parliament and Council 42/2001/EC on SEA, which also follows from the Aarhus Convention. In its program declaration of August 5, 2002, the Government stated that it would encourage ratification of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The Czech Republic signed the Aarhus Convention in June 1998;

b) voluntary agreements:
voluntary agreements concluded between business entities, professional and civic associations and public administrative bodies are an important instrument in environmental protection and have already proven to be useful in the area of waste management. Voluntary environmental agreements are a recognized instrument for extending the possibilities of implementation of EC Directives. Support for these activities is in accord with the commitments of the Czech Republic following from the European Agreement on Association with EU and is a part of the State Environmental Policy of the Czech Republic;

c) environmental education and public awareness:
EEPA has favorable effects in forming the values of citizens and facilitates exerting of pressure by the general public on politicians, legislators, the media and business entities. The Ministry of the Environment and the Ministry of Education, Youth and Sports annually announce programs of support for non-governmental organizations. Environmental education and public awareness is always included in the announced topics;

d) environmental audits and certification:
legal awareness of the need for environmental protection has gradually increased in the business sector during the 1990s. Business entities voluntarily undertake environmental audits and certification. The reason consists not only in the requirements of the legal regulations and the demands of foreign partners (competitiveness), but also in commercial and awareness raising activities, informative activities of consultants in introducing ISO 9000 and 14000, 14001/EMAS, Responsible Care, Cleaner Production, Environmentally Friendly Product, etc. and also of professional associations. The list of certified/validated enterprises under ISO 14001 or EMAS is published on the website of CEI (www.ceu.cz/EMAS).

2.12. Evaluation of the conformity of sectoral policies with the objectives and procedures of the Waste Management Plan of the Czech Republic

WMP CR was prepared on the basis of generally recognized principles of preparation of conceptual and strategic documents. In the Czech Republic, problems continue to be encountered in integrating the standards of sustainable development in the legal system and practical decision-making. This fact is also reflected in other conceptual documents. Waste management is expressly mentioned only in several documents of other ministries, and usually only marginally. As a rule, sectoral and other policies were respected in drawing up the draft WMP CR. The document has a substantial scope and covers all sectors of the economy, as every activity entails production of waste. A document of such scope prepared at the national level does not deal with the details of individual sectors, but rather, in accordance with similar documents of the EU member countries, stipulates general principles, strategic goals and measures for their fulfillment. Another step in the area of waste management planning consists in elaboration of this document into a number of implementing programs of the Czech Republic for groups of wastes that are important from the viewpoint of their detrimental impact on human health and the environment or due to their potential use as a substitute for primary natural resources. In preparation of these specific documents, the precondition of accord with the sectoral policies and objectives will be ensured by working groups participating in drawing up of individual implementation programs of the Czech Republic. The working groups were composed so that all important sectors would be represented, thus ensuring respect for other conceptual documents and their mutual interconnection.

2.13. International comparison of the state and tendencies in the area of waste management

a) waste production
the following sectors are the main producers of waste in the EU member countries: agriculture, construction, industry, mining of raw materials and the municipal sphere. The following conclusions can be made on the basis of comparison of production of wastes in the EU member countries and the Czech Republic (Table 28): there are only minor differences in production of municipal waste; in

contrast, differences are substantial for construction and demolition wastes and an increase in production of these wastes can be expected in the Czech Republic; waste production from mining of mineral resources is substantially greater in the EU member states that in the Czech Republic; on the contrary, generation of waste in energy production is much lower in the EU member countries than in the Czech Republic.

Table 28: *Comparison of production of important groups of wastes in EU and in the Czech Republic in 2001*

Groups of wastes	Amount of waste (%)	
	EU	Czech Republic
Municipal waste	14	13.3
Construction and demolition wastes	22	12
Wastes from mining of raw materials	29	6
Wastes from energy production	4	24
Industrial wastes	59	69

Source: SEP 2001, WMIS

b) waste management systems:
it follows from the available information that there are substantial differences in waste management systems among EU member countries. Landfilling or incineration is a predominant manner of disposal of a majority of municipal wastes in the EU member countries. Systems of separate collection of biologically degradable municipal waste were introduced only in certain regions of several countries. The level of the entire waste management system corresponds to the strength of the economy and environmental maturity of the given society;

c) comparability of data:
objective comparison of the state of waste management in the Czech Republic and EU member countries is complicated. The manners of reporting and providing notification of production and management of waste differ for individual generators; there are also various systems of collection of data and interpretation these data. Non-acceptance of the European Waste Catalogue by some EU member countries is an example of this issue. These countries must also fulfill the notification obligation towards EUROSTAT and have their conversion tables for these purposes. This fact also hinders objective comparison among individual countries and all the comparisons are thus only indicative (Table 29);

d) costs of waste management and payment thereof:
the costs and fees are affected by a number of factors, e.g. the collection system, processing techniques and the manner of final disposal of wastes, free market and the scope thereof, etc. and, last but not least, by social tolerance and civic acceptability. It is typical for households in the EU member countries to provide lump-sum payments for services connected with waste disposal, while generators of trade and industrial waste usually pay fees according to the volume or weight of waste.

Table 29: *Comparison of the Czech Republic with EU in waste management (indicators from the State Environmental Policy with an Outlook to 2005)*

	EU average	Max. EU	Min. EU	1997 CR	1999 CR	2000 CR	Objective (2005)
1) GDP (USD 1000 per inhabitant)	18	31.0 (L)	10.8 (G)	11.7	13.2	13.3	* N/A
2) Density of population (inhab/km^2)	115.9	378.1 (NL)	15.2 (SF)	130.7	130.3	130.3	N/A
- production of municipal waste (kg per inhabitant p.a.)	443	560 (NL. IRL)	360 (S)	320	408	414	340
- % of recycled waste	18.2	45 (A)	7 (GB)	12	15	15	30

- % incinerated waste	22.1	58 (DK)	2 (SF)	3	8	8	10
- % waste deposited on landfills	64.4	90 (I)	12 (DK)	88	65	60	60
- amount of recycled paper (%)	43	70 (D)	12 (IRL)	36	36	39	50
- amount of recycled glass (%)	55	88 (A)	26 (G. GB)	27	30	28	60
- amount of industrial waste from the processing sector (kg/ USD 1000 GDP)	68.6	109 (L)	3.4 (P)	65.6	62	58	N/A
- production of hazardous waste per unit GDP (kg / 1000 USD GDP)	2.8	10.5 (L)	1.9 (GB)	22.3	17.7	23	10

** value not available – objective not specified*

Source: SEP 2001, WMIS

2.14. Evaluation of the state of waste management in the Czech Republic in relation to the objectives and goals stipulated in EC regulations and acts

a) The Czech Republic undertook to incorporate the requirements stipulated in the EC regulations into the national legislation as of the date of accession to EU. The new legislation in the area of waste management fully respects the requirements of the relevant Directives. The new Act on Wastes, in particular, eliminated some differences in basic definitions, laid down the hierarchy of waste management, specified more accurately the conditions for operation of facilities for recovery, disposal, collection and purchase of waste and introduced the duty to draw up waste management plans, which are some of the main requirements of the Directive on wastes, 75/442/EEC, as amended. A majority of other EC Directives have also been transposed to the legal regulations of the Czech Republic and further regulations are being introduced, e.g. the Directive on end-of-life vehicles and the Directive on waste electrical and electronic equipment (WEEE). The thus commenced transposition of Directives will be a continuous process after accession of the Czech Republic to EU. The objective of EU in the area of the environment, and thus also in the area of waste management, is to harmonize laws of the member countries so that the common goal, sustainable development of the entire Community, is achieved.

b) the individual Directives must be transposed and implemented by the member countries during a specified time period from adoption of the new regulation or amendment thereof. In accordance with the legal system of the given member country, each country must transpose requirements following from Directives to its legislation. In contrast, EC Regulations are directly applicable in all member states, i.e. without any legislative action by national parliaments, governments or ministries. The EC Regulation on transboundary movement of wastes is an example of an EC Regulation in the area of waste management. In order to achieve full accordance with the EC regulations, to date, the Czech Republic has transposed the requirements stipulated in this Regulation to the Act on Wastes. This part of the Act will be repealed and the above Regulation will be directly applicable, once the Czech Republic becomes a member country of EU;

c) within negotiations on accession to EU, the Czech Republic bargained for a transitional period by 2005 in the area of waste management, concerning the obligatory quotas for recycling of plastics and overall recovery of wastes, as requested by Directive 92/64/EC, on packaging and packaging waste. In addition to Directives that deal directly with waste management, there is also a number of Directives that are not concerned with waste management, but are nevertheless closely related to this sphere. An important example is Council Directive 96/61/EC, on integrated pollution prevention and control, known also as the IPPC Directive. This Directive was transposed by Act No. 76/2002 Coll., on integrated pollution prevention and control;

d) a fundamental document at the level of EU strategic planning in the area of the environment is the 6th EC Environment Action Programme for the Period 2001-2010: "Environment 2010: Our Future, Our Choice" (Decision of the EU Parliament and the Council 1600/2002/EC) (hereinafter the "6th EC Action Program"). The Program concentrates on the goals in the coming decade in the following areas: prevention of climate change, conservation of nature, wild flora and fauna, addressing issues related to

the environment and health, protection of natural resources and waste management. The document strongly emphasizes the need for a strategic approach. In contrast with similar documents in the past, the 6th EC Action Program was issued by a Decision of the Council and the Parliament, thus confirming its importance;

e) as of January 1, 1993, the Czech Republic has been a party to the Basel Convention as the successor country of the Czech and Slovak Federative Republic. Decisions of the OECD Council are binding on the Czech Republic pursuant to Art. 5a of the OECD Convention and correspond to a treaty or agreement in the sense of Article 11 of the Basel Convention. After accession of the Czech Republic to EU, Council Regulation (EC) No. 259/93 on the supervision and control of shipments of waste within, into and out of the European Community (as amended) will be directly applicable for the Czech Republic. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and Decision of the OECD Council C(92)39/FINAL on the control of transfrontier movements of wastes destined for recovery operations have been transposed into the above Regulation.

2.15. Assessment of consequences of natural disasters

a) floods affecting a major part of the territory of the Czech Republic during the last decade revealed a neglected aspect of waste management, consisting in technical and organizational safeguarding aimed at dealing with waste ensuing not only from floods, but also from other natural disasters. Wastes thus created must be promptly removed to places intended for this purposes and properly safeguarded so that further damage to the environment is prevented, e.g. by creating unsecured landfills, i.e. subsequent environmental burdens. In dealing with the critical situation, it was established that the applicable legislation inadequately provided for the fact that extraordinary amounts of waste are created in these cases, often in a non-standard composition.

b) facts found in dealing with the consequences of floods:
the volume of waste and its composition was extraordinary and there was no historical experience with providing for its disposal. According to information provided by the affected regions, the costs connected with depositing waste in landfills in 2002 were estimated at CZK 365 million (excluding Prague). In the Capital City of Prague, waste was generated in an amount comparable with the annual production (approx. 500 thous. tons). Municipalities had no information on where to deposit the waste, no suitable premises were selected for collection of waste, and therefore, even later, it was not possible to provide for at least basic separation of waste; wastes were therefore transported directly to landfills or incinerators. Only one group of wastes was partly separated – refrigerators and freezers. Locally, it was possible to separate from the wastes residues of foodstuffs and other biological material stored in households and facilities for public catering. Systems of veterinary administration proved effective in this relation.
Collection yards of municipalities, municipal reinforced and safeguarded properties, similar facilities of companies, where these were entrusted with provision for depositing waste by the body of crisis management, proved useful as temporary premises for collection of waste. A considerable amount of construction and demolition waste was subsequently created and gradually processed.

2.16. Instruments for enforcement and control of compliance with the Waste Management Plan of the Czech Republic and evaluation thereof

a) normative instruments:

A survey of the applicable legal regulations and standards including EC regulations is given in Annex No. 4.

Implementation plans were drawn up for the area of waste management, containing, in particular the schedule of further steps in enforcing legal regulations of the Czech Republic and the EC legislation, and laying down benchmarks and responsibilities. The Ministry of the Environment provides for annual updating of the implementation plans;

b) economic instruments:

- <u>fees for depositing wastes in landfills:</u>

pursuant to the Act on Wastes, fees consist of two components – the basic component for the actual deposition of waste and the risk component for deposition of hazardous waste. Both components grow progressively, in particular for hazardous waste, so that generators are stimulated to limit generation of waste and introduce different technologies, and use input raw materials that are not a source of hazardous wastes;

- financial reserve of landfill operators:
  a landfill operator is obliged to create a financial reserve for recovery and maintenance of the landfill and for its decontamination after termination. The financial reserve is kept in a special escrow account and the landfill operator may draw funds from this account only with the consent of the competent Municipal Authority of a municipality with extended competence. The amount of financial reserve equals CZK 100 per ton of hazardous waste and CZK 35 per ton of other waste.

- payments for municipal waste:
  the costs connected with fulfillment of duties of municipalities as generators of municipal waste are dependant on the local conditions and are paid from financial means of the inhabitants. The valid legislation permits 3 manners of payment for municipal waste. The local fee for operation of a system of collection, transport, separation, recovery and disposal of municipal waste is limited by a maximum of CZK 500 per natural person with the place of permanent residence within the jurisdiction of the municipality or per structure intended or serving for individual recreation in relation to which no natural person is registered for permanent residence. An amendment to the Act on Wastes, No. 275/2002 Coll., introduced a second option in § 17 of the Act, consisting in a fee for municipal waste; the amount of this fee is not specified. Pursuant to § 17 (5) of the Act on Wastes, a third option consists in payment for the services provided on the basis of a contract between the municipality and the inhabitant; again, there is no upper limit for this payment.

- fines for administrative torts:
  the scope of fines is laid down from CZK 0 to CZK 10 million;

- tax exemptions:
  tax exemptions are related to the value added tax and real estate tax. The lower rate of value added tax, equal to 5%, in contrast to the basic 22% rate, applies to products made from recycled paper (with a minimum of 70 % of waste paper) and to production of biogas. Properties and structures serving exclusively for operation of recycling activities are exempted from the real estate tax.

2.17 Key issues of waste management in the Czech Republic

a) the principles of sustainable development are inadequately reflected in all sectors of economy which leads to detrimental impacts on the entire area of waste management;

b) prevention of waste generation is not adequately encouraged; there are no economic incentives and there is insufficient information on the benefits and advantages of measures and investments in the area of prevention of waste generation and limitation of hazardous properties of wastes;

c) the hierarchy of waste management is not respected, disposal of waste, in particular landfilling, prevails over recovery of waste. Competitiveness of products made from wastes is not ensured in the current environment of market economy. Under these conditions, it is very difficult to increase material recovery of wastes;

d) collection of wastes separated according to the individual kinds is inadequate; this duty is not consistently enforced, in both business and civic spheres. This leads to a low rate of returning of wastes into production cycles as a substitute for input raw materials. In relation to municipal waste, the issues are related, in particular, to hazardous wastes, biologically degradable wastes, products subject to re-acceptance, plastic wastes, etc.;

e) changes in the Catalogue of Wastes and the List of Hazardous Wastes (transposition of an EC Directive) have reduced the potential for comparison of information on the overall production of waste and management thereof in timelines, in particular for hazardous waste, which also hinders decision-making and planning in the area of waste management;

f) validation of all data in the area of waste management and feedback is not adequately ensured at local, regional and national level from the viewpoint of systematic, financial and personnel aspects. Public administration lacks compatible hardware and software;

g) there is inadequate background for performance of public administration in the area of waste management, i.e. there is an absence of qualified employees, the financial background is inadequate and also mutual connection with other areas of public administration is missing;

h) coordination of preparation of sectoral conceptual documents, including mutual relationships, is not adequately ensured, which negatively affects the area of waste management;

i) the level of environmental education in public administration and environmental awareness of the business and civic spheres is still inadequate.

Graph 5

Relation of Waste Production in the Czech Republic to GDP

GDP in USD 1000
Waste production in thous. tons p.a.
Waste production
GDP

Source: CWM

Graph 6

Investments expended for environmental protection in the 1990 – 2000 period according to environmental components

CZK billion in current prices
protection of soil and groundwater
reduction of the effect of physical factors on the environment
nature and landscape conservation
environmentally sound waste management
protection of the air and climate
water protection

Source: CSO

Graph 7

Manner of management of municipal waste in some countries

landfilling
incineration
recovery
Italy
Great Britain
United States
Germany
France
Austria
Japan
Switzerland
Netherlands
Czech Republic

Source of data on EU countries: Shama (A) „European Recycling Performance" Warmer Bulletin
Source of data for Japan: „Waste treatment technology in Japan" The Committee for Studying Transfer of Environmental Technologies, May 1996
Source of data on USA: EPA
Source of data on the Czech Republic: WMIS
Note:
The data cover periods of up to 5 years, the definition of municipal waste and waste recovery varies in the above countries,
i.e. the data given in the graph are only indicative.

Graph 8

Overall waste production in the regions of the Czech Republic

Total waste production in the period:

Border of the Czech Republic
kilometers
Southern Bohemia
Vysočina

III.
BINDING PART

…

IV.
DIRECTIVE PART

The Directive Part of WMP CR lays down the conditions and instruments for fulfillment of the set goals, the system of management of changes in waste management, the system of control of compliance with WMP CR, the legal basis for the objectives and measures stipulated in the Binding Part, a set of indicators for monitoring changes in waste management, proposals for elaboration of WMP CR, and assumption of trends in waste management after accession of the Czech Republic to EU.

4.1. Preconditions for fulfillment of the set objectives, measures and amendments of the Waste Management Plan of the Czech Republic

a) Stability of the legal environment in areas affecting waste management;

b) stability of the economy of the Czech Republic;

c) preparedness to deal with crisis situations and natural disasters;

d) responsibility of the state for introducing a system of environmental education and public awareness leading to increased responsibility of the population for human health and the environment.

4.2. Instruments for enforcement and control of compliance with the Waste Management Plan of the Czech Republic

The instruments laid down in WMP CR are created and employed so that they support the hierarchy of waste management, as stipulated in the Act on Wastes. The individual instruments are combined in order to achieve greater effectiveness. The principles of free movement of goods in the EU common market were respected in creation of the instruments.

4.2.1 Normative instruments

a) The legislation of the Czech Republic, and in particular the set of legal regulations providing for the area of the environment, including the applicable technical standards (Annex No 4);

b) EC Directives concerned with waste management, transposed into the legal regulations of the Czech Republic in accordance with their legal force (Annex No. 4);

c) strategic documents of other Ministries, e.g. the National Developmental Plan, the raw material policy, the energy policy, developmental and operational programs, etc.

d) policies and strategies in the area of investments, models of funding;

e) Implementation Programs of the Czech Republic providing for the systems of management of important groups of wastes (Annex No. 3), including draft deficit instruments;

f) regional waste management plans and waste management plans of waste generators;

g) conditions for consistent application of control powers of the public administration.

4.2.2. Economic instruments

a) Current economic instruments:

- fees for depositing waste that are paid, pursuant to the Act on Wastes, by the waste generator (the fee consists of two components: the basic component of the fee for all wastes and the risk component for hazardous wastes);
- the financial reserve for recovery and decontamination of landfills pursuant to the Act on Wastes (the reserve is created by the landfill operator in the framework of his costs);
- a financial guarantee and insurance pursuant to the Act on Wastes;
- deposits for returnable packages pursuant to the Act on Packaging;
- fines pursuant to the Act on Wastes, Act on Packaging, Act on municipalities and Act on misdemeanors;
- payments for operation of the system of management of municipal waste;
- subsidies from SEF CR (waste recovery programs);
- subsidies from the state budget (in particular, for collection and transport of waste);
- expenditures from local budgets (in particular, for collection and transport of municipal waste);
- subsidies from EU programs and funds (waste recovery programs);
- tax exemptions (for selected activities and commodities);
- other subsidies and grants provided by other sectors (grants and loans for research and development of the Ministry of Industry and Trade, programs of support for business activities implemented by Českomoravská záruční a rozvojová banka, a.s., grants for remediation of environmental damage, etc.);

b) conditions for the creation of new economic instruments:

- stipulating the principles of elaboration of a comprehensive concept of draft economic instruments in accordance with the recommendation of the European Commission and provisions of the State Environmental Policy of the Czech Republic;
- drawing up a strategy of incentives for business and civic spheres to limit generation of wastes and introduce environmentally sound manners of their management;
- laying down a system of ensuring the balance of positive and negative incentives;
- verifying the potential for indirect support for waste recovery through an increase in payments for primary natural resources and introduction of payments for resources that are not subject to payment;
- laying down a system for greater use of commercial loans in the area of waste management (e.g. through greater use of indirect economic instruments – guarantees for loans, etc.);
- modifying the programs of SEF CR so that they support fulfillment of the individual objectives stipulated in WMP CR;
- providing for new forms of recycling payments or deposit payments for selected products;

- increasing the amount of payments for depositing waste in landfills provided that these increased payments are provided to the locally competent municipalities and regions (SEF CR shall remain the recipient of the risk component of the fee for depositing wastes in landfills);

- drawing up a strategy of support for material recovery of wastes, including a potential for sale of products made from recycled wastes that could replace raw materials obtained from non-renewable natural resources in connection with the prepared Act on taxes from non-renewable natural resources.

4.2.3. Administrative instruments

a) Provision for uniform performance of the state administration in the area of the environment with emphasis on application of new principles and methods that could have a substantial favorable effect on human health and the environment;

b) increasing the expertise of employees in public administration in the sector of waste management and connected areas;

c) strengthening the powers of CEI and other control state administrative bodies, ensuring optimal conditions for effective performance of control activities by means of adequate professional and personnel capacities, technical and financial background, etc.;

d) support for desirable activities leading to prevention of waste generation, and limitation of its amount and hazardous properties, e.g. include, by means of indirect support, the relevant criteria in the terms and conditions of public tenders that are either directly announced or influenced by the public administrative bodies;

e) preferring products from recycled materials and environmentally friendly products in public procurement by public administrative bodies at all levels;

f) creation of a professional background facilitating performance of public administration by means of centers for waste management with a potential for providing data and reports on the current state and new trends in waste management and related areas; performing the required analyses in the given area, region, municipalities, etc.

g) establishment of the Waste Management Council (hereinafter the "Council") as an inter-sectoral advisory body of the Minister of the Environment, established for the purpose of coordination of waste management planning at the national level; members of the Council shall be appointed by the Minister of the Environment after agreement with the affected ministers, chief executive officers of regions and voluntary professional associations;

h) implementation and pilot projects concerned with fulfillment of strategic, main and partial objectives of WMP CR, dealing specifically with tasks in research and development, and preparation of investments aimed at enforcing integrated waste management systems.

4.2.4. Informative instruments

a) Information Strategy of the Ministry of the Environment for 2000 – 2003 and subsequent updated versions;

b) a set of legal rules, databases, periodicals, etc., as specified in detail in Chapter 2.9 above;

c) a (draft) communication strategy for the area of waste management;

d) a system of public hearings in the framework of the SEA process;

e) a program of information support for performance of public administration in waste management;

f) information systems of all ministries and other state administrative bodies intended for provision of information to the general public.

4.2.5. Voluntary instruments

a) Voluntary instruments in the area of waste management and other related areas that are aimed at performance of future duties following from draft EC Directives or that could lead to a greater effect for the environment and the producer (above-standard compliance with laws);

b) voluntary agreements that are aimed at increasing the quality of performance of activities of entities in waste management on the basis of application of standards of the ISO 14000 series and the quality of services in the area of waste management;

c) voluntary agreements concluded with operators of facilities in the area of waste management for the purpose of issuing an integrated permit covering facilities that are not subject to Annex No. 1 to the Act on IPPC;

d) other forms of voluntary activities of the business sphere, in particular sectoral programs such as Responsible Care in the chemical industry, the "Green Code" of hotel operators, etc.).

4.3. Management of changes in waste management and ensuring control of fulfillment of the set goals and procedures

4.3.1. Continuous control and amendment of the Waste Management Plan of the Czech Republic

a) The Ministry of the Environment (hereinafter the "Ministry"), regions, municipalities with extended competence and waste generators shall continuously control creation of conditions for prevention of waste generation and management thereof, and fulfillment of the set objectives and measures;

b) in control of WMP CR, the Ministry shall utilize the best available hardware and software equipment;

c) in cooperation with the regions, once annually at the latest by December 31 for the previous year, and beginning in 2005, the Ministry shall prepare a report on the state of implementation of WMP CR. On the basis of the results achieved, the Ministry shall propose further measures aimed at supporting its implementation;

d) the Council shall coordinate the evaluation of the state of waste management with emphasis on performance of the set measures that are within the competence of other ministries and the regions;

e) the Council shall discuss the proposed measures aimed at supporting implementation of WMP CR and submit, within the applicable deadlines, to the Minister of the Environment draft amendments to WMP CR and draft amendments to the related regulations, as appropriate.

4.3.2. System of evaluation of the Waste Management Plan of the Czech Republic

a) Evaluation of indicators of the state of and changes in waste management:

- the Ministry shall regularly evaluate the effectiveness of the set of instruments for waste management and lay down the procedure for their application in waste management. The first evaluation shall be carried out of December 31, 2004;

- the Ministry shall evaluate the selected set of indicators of the state of and changes in waste management as of December 31, 2004;

- the Ministry shall provide, in cooperation with other affected ministries , professional associations and the most important stakeholders, for preparation of a draft system of evaluation of services in waste management by the end of 2004;

b) evaluation of the state of enterprises in the area of waste management:

evaluation of fulfillment of the individual objectives stipulated in WMP CR also includes regular, periodical evaluation of the state of enterprises providing for recovery and disposal of wastes. Business entities performing activities under SCEA 37 10 00, 37 20 00, 51 50 00, 90 00 20, according to databases of the Czech Statistical Office, shall be the monitored units.

monitored indicators for evaluation of enterprises:

- the number of business entities recorded by CSO in the Czech Republic classified according to the number of employees;
- the number of employees in all statistically monitored units;
- revenues (performance) of all statistically monitored units.

4.3.3. Waste management indicators in the Czech Republic

a) The state of and trends in waste management and the degree of performance of the set objectives shall be established by means of a Set of Indicators of the State of and Changes in Waste Management in the Czech Republic (hereinafter the "Set of Indicators"). The indicators allow for monitoring of fulfillment of specific, as well as general objectives in waste management, as stipulated in WMP CR, and monitoring of the trends in basic components of waste management, as defined by OECD and EUROSTAT. The Set of Indicators, as specified in Annex No. 2, shall be gradually brought into accordance with Regulation (EC) No. 2150/2002, on waste statistics, after elimination of the existing variances;

b) the Set of Indicators consists of 38 indicators divided into 3 groups:

Group 1 – basic indicators I.1 to I.18:

basic indicators for the territory of the Czech Republic and the regions shall be evaluated once annually as of December 31 of the following year and shall be monitored for the following groups of wastes: total wastes, hazardous wastes, other wastes and municipal wastes;

Group 2 – supplementary indicators to basic indicators I.19 to I.22:

supplementary indicators for the territory of the Czech Republic and the regions shall be evaluated once annually as of December 31 of the following year;

Group 3 – specific indicators I.23 to I.35:

specific indicators for the territory of the Czech Republic and the regions shall be evaluated once annually as of December 31 of the following year;

c) the Set of Indicators and the process of determination of their values must comply with the requirements stipulated, in particular, by the Act on Wastes, Act on Packaging, Act on the state statistics service and international regulations;

d) the Ministry shall provide for determination and verification of the values of indicators through CWM in cooperation with CSO, the regions and other bodies within the scope of their competence;

e) the Ministry shall evaluate the Set of Indicators and provide for their updating.

4.4. Legal basis for the objectives stipulated in the Waste Management Plan of the Czech Republic

The Act on Wastes, including the relevant implementing regulations, constitutes a basis for specification of goals, principles and measures. The following survey of other basic documents, in particular EC regulations, is provided in relation to individual paragraphs of the Binding Part which stipulate the binding objectives, both in verbal and numeric forms:

Paragraph 3.**1. Measures to prevent waste production, and to reduce the amount and hazardous properties thereof:**

- Council Directive 75/442/EEC on waste
- Council Directive 91/156/EC amending Directive 75/442/EC on waste
- The State Environmental Policy of the Czech Republic for 2001
- 6th EC Action Program

Paragraph 3.2. Principles for management of hazardous waste:

- Council Directive 91/689/EEC on hazardous waste
- The State Environmental Policy of the Czech Republic for 2001
- 6th EC Action Program

Paragraph 3.3. Principles for management of selected wastes and installations pursuant to Part Four of the Act on Wastes:

- Act No. 76/2002 Coll., on integrated prevention (IPPC)
- Council Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)
- Council Directive 75/439/EEC on the disposal of waste oils
- Council Directive 91/157/EEC on batteries and accumulators containing certain dangerous substances
- Council Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture
- Council Directive 2000/53/EC on end-of-life vehicles
- Council Directive 78/176/EEC on waste from the titanium dioxide industry
- Council Directive 2002/96/EC on waste electric and electronic equipment
- Council Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- Council Directive 75/442/EEC on waste
- Council Directive 91/156/EC amending Directive 75/442/EC on waste
- 6th EC Action Program (Article 2)

Paragraph 3.4. Principles for the creation of a uniform and appropriate network of facilities for waste management:

- Council Directive 91/156/EC amending Directive 75/442/EC on waste
- 6th EC Action Program

Paragraph 3.5**. Principles for decision-making in relation to waste imports and exports:**

- Council Regulation (EEC) No. 259/93 on the supervision and control of shipments of waste within, into and out of the European Community
- The Basel Convention
- OECD Council Decision C(92)39/Final

Paragraph 3.6**. Fraction of recycled wastes:**

- Council Directive 99/31/EC on the landfill of waste (Article 5)

Paragraph 3.7**. Fraction of wastes deposited in landfills:**

- Council Directive 99/31/EC on the landfill of waste (Article 5)

- 6th EC Action Program

Paragraph 3.8. Maximum amount of organic components in matter deposited in landfills:
- The State Environmental Policy of the Czech Republic for 2001
- Council Directive 75/442/EEC on waste
- Council Directive 91/156/EC amending Directive 75/442/EC on waste
- Council Directive 99/31/EC on the landfill of waste (Article 5)
- 6th EC Action Program

4.5. Elaboration and supplementing of the Waste Management Plan of the Czech Republic

WMP CR regulates especially management of the groups of wastes that are stipulated in the Act on Wastes. The systems of management of other important waste commodities from the viewpoint of their detrimental impact on human health and the environment or their possible recovery as a replacement for primary natural resources will be gradually ensured within subsequent amendments to WMP CR. These commodities include, e.g. agricultural waste, energy-production waste, mining waste, construction and demolition waste, municipal waste, etc. The systems for management of these groups of waste will be laid down in Implementation Programs of the Czech Republic. The Ministry of the Environment established working groups for preparation of Implementation Programs of the Czech Republic. Other ministries, the regions, important unions, associations and bodies from the economic sector, and also non-governmental organizations and other stakeholders nominated their representatives to the individual working groups.

List of other Implementation Programs of the Czech Republic for the 2004 – 2006 period:

Implementation Program of the Czech Republic for oils
Implementation Program of the Czech Republic for batteries and storage batteries
Implementation Program of the Czech Republic for municipal waste
Implementation Program of the Czech Republic for biodegradable waste with emphasis on wastes from agriculture, gardening, fishing, gamekeeping and wood processing, etc.
Implementation Program of the Czech Republic for contaminated soils and sediments
Implementation Program of the Czech Republic for construction and demolition wastes
Implementation Program of the Czech Republic for industrial waste
Implementation Program of the Czech Republic for tyres
Implementation Program of the Czech Republic for wastes from energy production
Implementation Program of the Czech Republic for wastes from mining activities
Implementation Program of the Czech Republic for wastes from natural disasters
Implementation Program of the Czech Republic for labeling and separation of plastics

Structure of the Implementation Programs of the Czech Republic:
- SWOT analysis for the relevant waste commodity;
- objectives following from WMP CR;
- schedule for performance of partial tasks and measures;
- instruments (economic, legislative, voluntary, etc.);
- procedures in prevention and minimization of waste generation - variants
- manners of waste management – variants,
- current and planed capacities of waste management facilities;
- import and export of wastes;
- technical and economic analysis of the current state of affairs and proposed measures;
- public administration (competence);
- recommended means of waste management and draft min. standards – variants;
- procedures leading to the reduction of environmental and health risks in management of hazardous wastes;
- draft pilot projects;

- environmental acceptability of the state of waste management (public acceptance);
- model examples of management of the given waste commodity in the Czech Republic, EU countries, etc.;

A comprehensive survey of Implementation Programs of the Czech Republic prepared continuously during the 2003-2006 period is given in Annex No. 3.

4.6. Trends in waste management after accession of the Czech Republic to the European Union

A survey of proposals, changes and measures following from draft EC Directives concerning the individual groups of wastes and activities connected with waste management. The information was obtained from an EU document entitled Environmental Issue Manager of December 2002:

a) packaging waste (draft amendment to Directive 94/62/EC on packaging and packaging waste):
a Common position of the Council and of the European Parliament was submitted on February 7, 2003. The draft includes specification of the definition of packaging. Furthermore, it includes new limits for recovery of packaging waste equal to 60 % wt. (as a minimum) by December 31, 2008, and a minimum of 55 % and a maximum of 80 % wt. for recycling by December 31, 2008. Recycling goals were newly proposed for individual commodities – 60 % wt. for glass, paper and cardboard, 50 % for metals, 22.5 % for plastics, and 15 % for wood;

b) environmental aspects of PVC (a Communication is planned):
A working document, the Green Paper, was drawn up in 2000 in relation to PVC. The European Commission currently discusses voluntary commitments proposed by the industry concerning elimination of lead stabilizers in PVC by 2015 and an increase in recycling of PVC from 200 thous. tons by 2010. If a voluntary agreement is concluded with enterprises in relation to PVC, this will take place on the basis of a Commission Recommendation or within a Directive laying down the objectives and a time schedule. The Environmental Committee of the European Parliament has decided to issue a report on the European Commission Communication on voluntary agreements. The intention in this context is to discuss the aspects of PVC together with the report of the Legislative Committee of the European Parliament. Discussions in EU in relation to PVC are concerned especially with the potential for use/replacement of some admixtures used for manufacture of products containing PVC, such as phthalates, lead and cadmium, and also with the manners of management of waste containing PVC;

c) construction and demolition wastes (a Recommendation is planned):
the objective is to improve management of construction and demolition waste so that it is in accordance with the hierarchy of waste management (prevention, reuse, material recovery, energy recovery and disposal). It is recommended to enforce the recycling quotas for construction and demolition wastes in order to attain 50-75 % by 2005 and 70-85 % by 2010; deposition in landfills should be limited; preparation of binding measures is preferred within the ongoing discussions; no substantial progress is expected in 2003;

d) sludges from WWTP (an amendment to the Directive is planned):
the draft amendment will be concerned with a support for use of sludges in forest management and in reclaiming. The definition of the term “water treatment sludge” will be extended. Furthermore, stricter limits will be stipulated for the content of heavy metals in sludges and in soil, and the list of these metals will be extended; draft limit values for organic substances, including dioxins, are being considered, including a priority requirement for biological, chemical or thermal treatment of sludges. Legislative preparation of the amendment is not expected to be completed in 2003;

e) biologically degradable wastes (a new Directive is planned):
the objective is to support separate collection and treatment of biodegradable wastes so as to facilitate fulfillment of the goals of the EC Directive on the landfills of waste. It is proposed that collection schemes be prepared within 3 years for areas with population over 100 000 and within 5 years for

agglomerations with more than 2000 inhabitants. It is proposed that uniform standards be prepared for 3 levels of the quality of compost.
Completion of preparation of the draft Directive is expected in 2004;

f) hazardous wastes from households (a draft new Directive is planned):
an amendment to Directive 91/689/EEC on hazardous waste should impose the duty to label products containing dangerous substances and to provide for separate collection thereof (excluding batteries, waste electric and electronic equipment and waste oils that are dealt with in separate Directives);
Preparation of the draft is not expected to be completed in 2003;

g) export and import of wastes (amendment to Council Regulation (EEC) No. 259/93 on the supervision and control of shipments of waste within, into and out of the European Community is planned):
an amendment to the Regulation is being prepared, ensuring simplification and limitation of procedural requirements for notifications. OECD Decision C(2001)107 of June 2001 should be incorporated in the amendment. The draft should be submitted during 2003;

h) waste oils (draft Revision of Directive 75/439/EEC):
Directive 75/439/EEC on waste oils, as supplemented by Directive 87/101/EEC should review the permitted content (50 ppm) of PCBs/PCTs in waste oils. It will be necessary to prepare a comparative study of the cost analysis of recovery and incineration. The draft will not be completed in 2003;

i) batteries and storage batteries (a new Directive is planned):
canceling of Directives 91/157/EEC and 93/86/EEC is being considered; the new Directive should cover all types of batteries and storage batteries. It is planned to extend the duties of producers to finance registration, collection , processing, recovery, safe disposal and monitoring. The following objectives are proposed – 75 % wt. for consumer batteries/storage batteries, 95 % wt. for industrial and automobile batteries/storage batteries, and recycling of 55 % wt. of materials for collected batteries (December 31, 2004). Collection and recycling of Ni-Cd batteries and storage batteries is proposed;

j) wastes from mining activities (a new Directive is planned):
the objective is to deposit gangue in excavated mines and to ensure reclaiming of the mining sites. It will be imposed on the operator to draw up a waste management plan. The member countries will draw up plans for dealing with extraordinary situations in mining. Furthermore, amongst other things, it is proposed that conditions be stipulated for permitting mining and for the entire process of mining so that protection of water and soil is ensured. The draft should be prepared during 2003.

k) definition of waste (preparation of a methodology or measure is being considered):
it should be specified, under which conditions and it what state, a material can be considered to be waste and when waste can become a secondary raw material or a product. The Commission does not expect any progress in clarifying the definition in 2003;

l) recycling of waste (preparation of a Green Paper is being considered):
the draft should be prepared by the Commission during 2003; this includes elaboration of a "Thematic Strategy" as laid down in the 6th EC Action Program. Stipulation of recycling goals for various commodities is being considered. A policy and instruments for the support of establishment of a market in recycled materials should also be stipulated. A definition of waste recycling should be considered;

m) wastes contaminated by persistent organic substances (a draft measure is being considered):
the measure should be based on the section of the Stockholm Convention dealing with adoption of appropriate measures concerned with organic pollutants contained in wastes. The first phase will be devoted to preparation of a study concerned with setting the limits for concentrations of dioxins in wastes;

n) definition of disposal and recycling operations (a draft Decision is being considered):

The Commission has declared that it is necessary to modify the current list of waste disposal and recycling operations. A basic study will be performed;

o) objectives for prevention of waste generation (a draft Communication is planned):
Quantitative and qualitative objectives will be stipulated on the basis of the requirements of the 6th EC Action Program for limitation of all relevant wastes by 2010. A working document will be submitted for discussion during 2003, prior to adoption of a legislative measure.

The survey of amended and newly prepared EC regulations shall always be updated and published together with evaluation of WMP CR.

Annex No. 1

Survey of Objectives Stipulated in the Waste Management Plan of the Czech Republic

Serial number	Location in the text, paragraph No.	Definition of the objective	Type of objective
1	3.1.	reduction of the specific waste production independent of the level of economic growth	basic strategic objective
2	3.1.	maximum recovery of wastes as a substitute for primary natural resources	basic strategic objective
3	3.1.	minimization of detrimental impacts on human health and the environment in waste management	basic strategic objective
4	3.2.	reduction of the specific production of hazardous wastes by 20% by the year 2010 compared to 2000, with the assumption of a further decrease	main objective
5	3.3.1.	disposal of wastes containing PCBs and facilities containing PCBs or decontamination thereof by the 2010	main objective
6	3.3.2. (a)	recovery of 38 % wt. of the annual amount of oils placed on the market by 2006 and 50 % wt. of the annual amount of oils placed on the market by 2012 and increase the amount of re-accepted used waste oils	main objective
7	3.3.3. (a)	full recovery of the metal substance from used industrial Ni-Cd storage batteries by December 31, 2005	main objective
8	3.3.3. (b)	collection of used portable batteries in the amount of 100 g p.a. per inhabitant and ensure material recovery of 50 % wt. thereof by 2006	main objective
9	3.3.3. (c)	collection and material recovery of 85 % wt. of the total amount of lead storage batteries placed on the market by 2005	main objective
10	3.3.3. (d)	collection and material recovery of 95% wt. of the total amount of lead storage batteries placed on the market by 2012	main objective
11	3.3.4. (a)	facilitation of treatment of sludges from waste water treatment plants including sanitization thereof, use of treated sludges on agricultural land and other means of utilization of sludges	main objective
12	3.3.5. (a)	reduction of the specific occurrence of emissions from the production of titanium dioxide and their escape into the individual components of the environment	main objective
13	3.3.6. (a)	prevention of dispersal of asbestos and asbestos fibers into the components of the environment	main objective
14	3.3.7. (a)	for vehicles manufactured after January 1, 1980, at the latest from January 1, 2006, reuse and recover at least 85 % of the average weight of all end-of-life vehicles accepted during a calendar year and reuse and provide for material recovery of at least 80 % of the average value of all end-of-life vehicles accepted during a calendar year	main objective
15	3.3.7. (b)	for vehicles manufactured before January 1, 1980, the rate of reuse and recovery has been set at 75 % and the rate of reuse and material recovery at 70 % of the average weight of all end-of-life vehicles accepted during a calendar year	main objective
16	3.3.7. (c)	at the latest from January 1, 2015, reuse and recover at least 95 % of the average weight of all end-of-life vehicles accepted during a calendar year and reuse and provide for material recovery of at least 85 % of the average value of all end-of-life vehicles accepted during a calendar year	main objective
17	3.4.	creation of integrated waste management systems at the regional level and their interconnection with the country-wide network of waste management facilities in the framework of territorial utilities	main objective
18	3.4. (i), (j)	- provision of no support for construction of new incinerators of	partial objectives

Serial number	Location in the text, paragraph No.	Definition of the objective	Type of objective
		municipal waste from state funds; - provision of no support for construction of new waste landfills from state funds	
19	3.5.	prevention of endangering human health and the environment as a consequence of transboundary movement of wastes and ensuring accordance with the international obligations of the Czech Republic in decision-making in relation to waste imports and exports	main objective
20	3.6.	an increase in recovery of wastes with preference for recycling to 55 % of all waste produced by 2012 and an increase in material recovery of municipal waste to 50 % by 2010 compared to 2000	main objective
21	3.6. (h)	recovery of 50 % wt. of produced construction and demolition wastes by December 31, 2005 and 75 % wt. of produced construction and demolition wastes by December 31, 2012;	partial objective
22	3.6. (i)	an increase in the level of collection of separated discarded electrical and electronic equipment from households to 4 kg per capita p.a. by December 31, 2006	partial objective
23	3.6. (j)	for large domestic appliances and automatic sales machines, recovery of at least 80 % of the average weight of the used appliance and reuse or recycle materials, substances and components therefrom to a degree of at least 75% of the average weight of the appliance by December 31, 2006	partial objective
24	3.6. (k)	for equipment in information technology and communications and consumer equipment, recovery of at least 75 % of the average weight of the used appliance and reuse or recycle materials, substances and components therefrom to a degree of at least 65 % of the average weight of the appliance by December 31, 2006	partial objective
25	3.6. (l)	for small domestic appliances, lighting equipment, electrical and electronic tools, toys and instruments for monitoring and regulation, recovery of at least 70% of the average weight of the used appliance and reuse or recycle materials, substances and components therefrom to a degree of at least 50% of the average weight of the used appliance by December 31, 2006	partial objective
26	3.6. (m)	reuse or recycling of materials, substances and components from discharge tubes in a degree of at least 80% of the weight of the used appliance by December 31, 2006	partial objective
27	3.7.	decrease in the weight fraction of wastes deposited in landfills by 20% by the year 2010 compared to 2000 and with prospects for a further decrease	main objective
28	3.7. (c)	closing and reclaiming of landfills that are not capable of meeting the legal requirements for operation and technical state in the long term; waste landfills that do not comply with the conditions laid down by the Act on Wastes and the implementing regulation should be operated maximally to July 16, 2009 on the basis of a decision of the Regional Authority in accord with the approved plan of treating the landfill	partial objective
29	3.7. (f)	a control of the operation and technical state of all waste landfills in operation by December 31, 2004	partial objective
30	3.7. (g)	regular control of measures laid down in the plan of treatment of landfills at the operators of the landfills in an attempt to harmonize the operation and technical state of the landfill with the conditions stipulated by the Community legislation by December 31, 2009	partial objective
31	3.8.	decrease in the maximum amount of biologically degradable municipal wastes (hereinafter (BDMW) deposited in landfills, so that the faction of these components equals a maximum of 75% wt. in 2010 and 50% wt. in 2013 and, in the future, in 2020, a	main objective

Serial number	Location in the text, paragraph No.	Definition of the objective	Type of objective
		maximum of 35% wt. of the total amount of BDMW produced in 1995	

Annex No. 2

Set of Indicators for Waste Management in the Czech Republic

Group 1 – basic indicators I.1 to I.18:

The indicators shall be evaluated separately for the following groups: all wastes, hazardous wastes, other wastes and municipal wastes

I.1	Overall production of wastes	1 000 tons p.a.
I.2	Overall production of waste per unit GDP	tons/EUR 1000 p.a.
I.3	Contribution to overall production of wastes	% of overall production of wastes
I.4	Production per inhabitant	kg per inhabitant p.a.
I.5	Fraction of recovered waste (R1 to R11, N1)	% of overall production of the given group of wastes
I.6	Fraction of material recovery of waste (R2 to R11, N1)	% of overall production of the given group of wastes
I.7	Fraction of energy recovery of waste (R1) %	% of overall production of the given group of wastes
I.8	Fraction of waste disposed of by landfilling (D1, D5, D12)	% of overall production of the given group of wastes
I.9	Fraction of wastes disposed of by other deposition (D3, D4)	% of overall production of the given group of wastes
I.10	Fraction of wastes disposed of by incineration (D10)	% of overall production of the given group of wastes
I.11	Fraction of wastes exported for the purpose of their disposal	% of overall production of the given group of wastes
I.12	Fraction of wastes imported for the purpose of their material recovery (R2 to R11, N1)	% of overall production of the given group of wastes
I.13	Total capacity of a facility for recovery of wastes (R1 to R11)	tons p.a.
I.14	Total capacity of a facility for material recovery of wastes (R2 to R11)	tons p.a.
I.15	Total capacity of a facility for energy recovery of wastes (R1)	tons p.a.
I.16	Total capacity of a facility for incineration of wastes (D10)	tons p.a.
I.17	Total capacity of a facility for landfilling of wastes (D1, D5, D12)	m^3
I.18	Total capacity of a facility for other deposition of wastes (D3, D4)	m^3

Group 2 – supplementary indicators to basic indicators I.19 to I.22:

I.19	Number of collection sites for hazardous wastes	number
I.20	Ratio of hazardous wastes from health care to the overall production of wastes from health care	%
I.21	Volume of separate collection of municipal waste and packages (subgroup 20 01 and 15 01)	kg per inhabitant p.a.
I.22	Fraction of biologically degradable municipal waste (BDMW) deposited in landfills in relation to the 1995 comparison base	%

Group 3 – specific indicators I.23 to I.35:

I.23	Ratio of construction and demolition waste to the overall production of wastes	% of overall production of wastes
I.24	Fraction of recovered construction and demolition wastes (R1, R3, R4, R5, R11, N1)	% of construction and demolition wastes
I.25	Fraction of construction and demolition wastes disposed of by landfilling (D1, D5, D12)	% of construction and demolition wastes
I.26	Fraction of construction and demolition wastes disposed of by other deposition (D3, D4)	% of construction and demolition wastes
I.27	Overall production of wastes containing PCBs	tons p.a.
I.28	Overall production of waste oils	tons p.a.
I.29	Overall production of waste batteries and storage batteries	tons p.a.
I.30	Overall production of sludges from waste water treatment plants	tons p.a.
I.31	Fraction of sludges produced by waste water treatment plants used on agricultural land (R10)	% of overall production of sludges
I.32	Overall production of waste asbestos	tons p.a.
I.33	Overall production of end-of-life vehicles	tons p.a.
I.34	Fulfillment of the objectives for recycling and recovery of packaging waste in the structure of Annex No. 3 to the Act on Wastes	% for all items of the table
I.35	Difference between the average price for incineration of a ton of waste and the price for deposition of a ton of waste in a landfill including fees divided to hazardous and other wastes	CZK

Note:
Indicators I.11, I.12 and I.34 shall not be evaluated in regional WMP. Other indicators shall be evaluated only for facilities operated in the jurisdiction of the region.

Annex No. 3

Survey of Implementation Programs of the Czech Republic for the 2003 – 2006 Period

Location in the text, paragraph No.	Name of the Implementation Program of the Czech Republic	Deadline for Preparation
3.2. (a)	Implementation Program of the Czech Republic for management of hazardous wastes	December 31, 2003
3.3.1. (b)	Implementation Program of the Czech Republic "Plan of the Czech Republic for Decontamination and Disposal of Facilities Containing PCBs"	December 31, 2003
3.3.4. (a)	Implementation Program of the Czech Republic for sludges from waste water treatment plants	December 31, 2003
3.3.7.	Implementation Program of the Czech Republic for management of end-of-life vehicles	December 31, 2003
3.6. (g)	Implementation Program of the Czech Republic for packaging and packaging wastes	December 31, 2003
3.8. (d)	Implementation Program of the Czech Republic for biologically degradable wastes with emphasis on biologically degradable municipal waste, including analysis of the capacity of facilities	December 31, 2003
3.1. (l)	Implementation Program of the Czech Republic for PVC and waste from PVC	December 31, 2003
3.6. (a), (b)	Implementation Program of the Czech Republic "Draft Instruments for the Support for Increasing Material Recovery of Wastes including the Strategy of Support for the Market in Recycled Products"	December 31, 2004
3.6. (n)	Implementation Program of the Czech Republic for electrical and electronic equipment	December 31, 2004
3.2. (b)	Implementation Program of the Czech Republic for wastes from health care	December 31, 2004
4.5.	Implementation Program of the Czech Republic for oils	December 31, 2004
4.5.	Implementation Program of the Czech Republic for batteries and storage batteries	December 31, 2004
4.5.	Implementation Program of the Czech Republic for municipal waste	December 31, 2004
4.5.	Implementation Program of the Czech Republic for biodegradable waste with emphasis on wastes from agriculture, gardening, fishing, gamekeeping and wood processing, etc.	2004 – 2005
4.5.	Implementation Program of the Czech Republic for contaminated soils and sediments	2004 – 2005
4.5.	Implementation Program of the Czech Republic for construction and demolition wastes	2004 – 2005
4.5.	Implementation Program of the Czech Republic for industrial waste	2004 – 2005
4.5.	Implementation Program of the Czech Republic for tyres	2005
4.5.	Implementation Program of the Czech Republic for wastes from energy production	2004 – 2006
4.5.	Implementation Program of the Czech Republic for wastes from mining activities	2004 – 2006
4.5.	Implementation Program of the Czech Republic for wastes from natural disasters	2004 – 2006
4.5.	Implementation Program of the Czech Republic for labeling and separation of plastics	2005 – 2006

Legal regulations and standards in the area of waste management in the Czech Republic and EU

1. Laws:

Act No. 76/2002 Coll.,	on integrated pollution prevention and control, the integrated pollution register and amending some laws (Act on Integrated Prevention)
Act No. 86/2002 Coll.,	on protection of the air and amending some other laws (Act on Protection of the Air)
Act No. 100/2001 Coll.,	on environmental impact assessment and amending some related laws (Act on Environmental Impact Assessment)
Act No. 185/2001 Coll.,	on waste and on amendment to some other laws, as amended.
Act No. 274/2001 Coll.,	on water mains and sewer systems for public use and amending some laws (Act on Water Mains and Sewers)
Act No. 254/2001 Coll.,	on waters and amending some laws (the Water Act)
Act No. 477/2001 Coll.,	on packaging wastes and amending some other Acts
Act No. 106/1999 Coll.,	on free access to information
Act No. 123/1998 Coll.,	on the right to environmental information.
Act No. 157/1998 Coll.,	on chemical substances and chemical preparations and amending and supplementing some other laws
Act No. 17/1992 Coll.,	on the environment, as amended by Act No. 123/1998 Coll.
Act No. 114/1992 Coll.,	on protection of nature and the landscape
Act No. 244/1992 Coll.,	on environmental impact assessment of development conceptions and programs, as amended (Act on environmental assessment)
Act No. 388/1991 Coll.,	on the State Environmental Fund of the Czech Republic
Act No. 50/1976 Coll.,	on land-use planning and the rules of construction procedure (the Construction Code)

2. Decrees:

Decree No. 115/2002 Coll.,	on details of management of packaging
Decree No. 116/2002 Coll.,	on labelling returnable packaging for which a deposit is made
Decree No. 117/2002 Coll.,	on the extent and means of keeping records of packaging and reporting of information from these records
Decree No. 237/2002 Coll.,	on details of the means of carrying out reacceptance of some products
Decree No. 355/2002 Coll.,	laying down the emission limit values and further conditions for operation of other stationary sources of air pollution releasing volatile organic substances from processes employing organic solvents and from storage and distribution of petrol
Decree No. 356/2002 Coll.,	laying down the list of pollutants, general emission limit values, the manner of submitting reports and information, establishing the amount of pollutants released, the darkness of smoke, the admissible levels of nuisance by smell and intensity of smells, the conditions for authorization of persons, the requirements for keeping operational records for sources of air pollution and the conditions for application thereof
Decree No. 357/2002 Coll.,	laying down the requirements on the quality of fuels from the viewpoint of air protection
Decree No. 358/2002 Coll.,	laying down the conditions for protection of the ozone layer of the Earth
Decree No. 554/2002 Coll.,	laying down the form of application for issue of an integrated permit, the scope and manner of filling-out thereof
Decree No. 376/2001 Coll.,	on evaluation of the hazardous properties of wastes
Decree No. 381/2001 Coll.,	laying down the Catalogue of Wastes, List of Hazardous Wastes and List of Wastes and Countries for the purposes of export, import and transit of wastes and the

	procedure in granting consent to the export, import and transit of wastes (Catalogue of Wastes)
Decree No. 382/2001 Coll.,	on conditions for the use of treated sludges on agricultural land
Decree No. 383/2001 Coll.,	on details of waste management
Decree No. 384/2001 Coll.,	on management of polychlorinated biphenyls, polychlorinated terphenyls, monomethyl tetrachlorodiphenyl methane, monomethyl dichlorodiphenyl methane, monomethyl dibromodiphenyl methane and all mixtures containing any of these substances in a concentration greater than 50 mg/kg (on management of PCBs)
Decree No. 457/2001 Coll.,	on professional qualification and regulation of some other aspects related to environmental impact assessment
Decree No. 132/1998 Coll.,	implementing some provisions of the Construction Code.
Decree No. 306/1998 Coll.,	laying down the procedure for evaluation of the risk of dangerous chemical substances for the environment
Decree No. 99/1992 Coll.,	on establishment, operation, safeguarding and liquidation of facilities for deposition of wastes in underground areas

3. Standards:

Survey of selected standards from the area of waste management (a full list of valid CSN standards is kept by the Czech Standards Institute – http://www.csni.cz)

CSN 01 0964	Instruction for integration of environmental aspects in product standards
CSN 01 5111	Sampling of loose and granular materials
CSN 06 3090	Facilities for thermal disposal of wastes
CSN 07 7002	Disposal of solid residues from combustion of coal
CSN ISO 10155	Stationary emission sources – Automated monitoring of the mass concentration of particles – Characteristics, testing methods and specification
CSN ISO 10348	Photography – Waste water from treatment – Determination of the silver content
CSN EN ISO 10374	Containers – Automatic identification
CSN ISO 10381-6	Quality of soil – Sampling – Part 6: Instructions for taking, handling and storing of soil samples intended for study of aerobic microbial processes in laboratory
CSN ISO 10396	Stationary emission sources – Taking samples for automated determination of weight concentrations of gaseous components
CSN ISO 10780	Stationary emission sources – Measurement of the velocity and flow of gases in pipes
CSN ISO 10849	Stationary emission sources – Determination of the weight concentration of emissions of nitrogen oxides – Characteristics of automated measuring methods
CSN ISO 11048	Quality of soil – Determination of sulfates dissoluble in water and sulfates soluble in acids
CSN ISO 11260	Quality of soil – Determination of the cation exchange capacity for pH of soil and exchangeable cations in use of a solution of barium chloride
CSN ISO 11261	Quality of soil – Determination of total nitrogen – Modified Kjeldahl method
CSN ISO 11263	Quality of soil – Determination of phosphorus – Spectrophotometric determination of phosphorus dissoluble in a solution of sodium hydrogen carbonate
CSN ISO 11464	Quality of soil – Preparation of samples for physical and chemical analysis
CSN EN ISO 11683	Packaging – Tactile warnings - Requirements
CSN EN 12176	Characterization of sludges – Determination of pH
CSN EN 12461	Biotechnology – Large scale production and manufacture – Instructions for handling, inactivation and testing of waste
CSN P ENV 12506	Characterization of wastes – Analysis of eluates – Determination of pH, As, Cd, Cr (VI), Cu, Ni, Pb, Zn, Cl, NO, SO
CSN EN 12740	Biotechnology – Laboratories for research, development and analysis – Instructions for waste management, disposal and testing
CSN P ENV 12920	Characterization of wastes – Methodology for determination of leaching properties of wastes under special conditions
CSN EN 13095	Biotechnology – Criteria of effectiveness of systems for disposal of waste gases
CSN EN 131177	Transport packaging – Reusable solid plastic containers
CSN CR 13504	Packaging – Material recovery – Criteria for the least contents of recycled materials
CSN EN ISO 14040	Environmental management – Life cycle assessment – Principles and curriculum
CSN EN ISO 14041	Environmental management – Life cycle assessment – Setting the goal and scope and inventory analysis
CSN EN 1501-1	Vehicles for transport of waste and the dumping equipment thereof – General requirements on safety – Part 1: Automobiles for transport of waste with a dumping equipment in the rear
CSN 16 0100	Transport metal packages. Terminology
CSN EN 1911-1	Stationary emission sources – Manual method of determination of HCl – Part 1: Sampling

CSN EN 1911-2	Stationary emission sources – Manual method of determination of HCl – Part 2: Absorption of gaseous compounds
CSN EN 1911-3	Stationary emission sources – Manual method of determination of HCl – Part 3: Analysis of an absorption solution and calculations
CSN EN 1948-1	Stationary emission sources – Determination of the weight concentration of PCDD/PCDF – Part 1: Sampling
CSN EN 1948-2	Stationary emission sources – Determination of the weight concentration of PCDD/PCDF – Part 2: Extraction and purification
CSN EN 1948-3	Stationary emission sources – Determination of the weight concentration of oxide emissions - Part 3: Identification and quantitative determination
CSN 26 0002	Handling of materials. Terminology
CSN 26 7004	Transport equipment. Equipment for loading and unloading. Basic parameters
CSN 26 9015	Storage. Basic terminology
CSN 26 9016	Storage. Terminology for storage places
CSN 26 9017	Storage. Terminology for spaces and premises
CSN 26 9354	Containers. Basic classification
CSN 26 9381	Rolling waste containers
CSN 27 9107	Hammer crushers. Basic parameters
CSN EN 2955	Aviation and cosmonautics – Recycling of waste titanium and titanium compounds
CSN 40 1400	Transport of radioactive substances. Names and definitions
CSN 42 0030	Steel and cast-iron waste
CSN 42 1331	Waste non-ferrous substances and their alloys
CSN 43 9410	Crushers of metal chips. Safety regulations
CSN 43 9411	Breaking equipment. Safety regulations
CSN 44 1317	Automatic sampling of coal sludges, treatment and laboratory testing thereof
CSN 44 7300	Treatment equipment. Terminology
CSN EN 45001	General criteria for activities of testing laboratories
CSN 46 5735	Industrial composts
CSN 49 0006	Wooden packages. Terminology
CSN EN 50225	Regulation for safe utilization of fully encased electrical equipment filled by oil that could be contaminated by PCBs in practice
CSN 50 5301	Consumer packaging. Folders. Joint provisions
CSN EN 61429	Labeling of storage battery cells and batteries with international label ISO 7000-1135
CSN 64 0001	Plastic-production and rubber-production terminology
CSN 64 0003	Plastics. Evaluation of plastic wastes. Terminology
CSN 64 0004	Plastics. Labeling of plastic products for identification of materials
CSN 64 6016	Plastics. Special sheets from low density polyethylene (PE-LD). Quality standard
CSN EN 60335-2-16	Safety of electrical appliances for households and similar purposes. Part 2: Special requirements on crushers of garbage from foodstuffs
CSN EN 643	List of European standard types of waste paper
CSN 64 6223	Plastics. Sheets from plasticized poly-vinyl chloride (PVC-P) for insulation against liquids Quality standards
CSN 65 0511	Sampling of granular matters
CSN 65 6690	Waste oils
CSN ISO 6849	Photography – Waste water from treatment – Determination of the boron content
CSN ISO 6850	Photography – Waste water from treatment – Determination of nitrates by a spectrometric method with the use of brucine
CSN 70 30..	Group of standards for Packaging glass
CSN 70 31..	Group of standards for Beverage glass
CSN 70 32..	Group of standards for Conserve glass
CSN 72 1006	Control of consolidation of soils and loose materials
CSN 72 2009	Granulate blast-furnace slag. Testing
CSN 72 2030-1-15	Chemical analysis of blast-furnace slag
CSN 72 2041-1-24	Chemical analysis of steel-making slag
CSN 72 2050	Clinkers for clinker concrete
CSN 72 2051	Clinker from incinerators of solid municipal wastes for construction purposes
CSN 72 2060-70	Ash for construction purposes
CSN 72 9101	Crushers. Terminology
CSN 72 9201	Mills. Terminology
CSN 72 9301	Separators. Terminology
CSN 73 2402	Assembly and control of structures from lightweight concrete from artificial porous aggregates
CSN 73 3040	Geotextiles in construction structures. Basic provisions
CSN 73 3052	Embankments, back fills and fillings from ash and light ash
CSN 73 6124	Construction of roadways. Aggregates cemented by hydraulic binding agents
CSN 75 7951	Water quality. Chemical and physical analysis of sludges. Determination of extractable substances
CSN 75 7952	Water quality. Chemical and physical analysis of sludges. Determination of non-polar hydrocarbons – petroleum substances
CSN 77 0000	Terminology for packaging technology. General and basic names
CSN 77 0020	Packaging. General requirements on packaging
CSN 77 0050	Labeling of freights. Joint provisions

CSN 77 0052-1	Packaging. Packaging waste. Terminology. Basic terms
CSN 77 0052-2	Packaging – Packaging waste – Part 2: Labeling – Identification labeling for evaluation
CSN 77 0053	Packaging – Packaging wastes – Instructions and information on management of used packages
CSN 77 0054	Packaging – Requirements for returnable consumer packages
CSN 77 0100	Protective packaging. General provisions
CSN 77 02..	Group of standards for Packaging. Specification methods for bags
CSN 77 06..	Group of standards for Packaging. Transport packaging
CSN 77 0610	Mechanical test of transport packages for dangerous goods. General and joint provisions
CSN IEC 7965-2	Packages – Bags – Drop test – Part 2: Plastic bags
CSN 77 1000	System of dimensions of packages
CSN 77 3000	Packages for aerosols. General provisions
CSN ISO 7766-1	Photography – Waste waters after treatment – Analysis of cyanides – Part 1: Spectroscopic determination of hexacyano-ferrate(II) and hexacyano-ferrate(III)
CSN ISO 7934	Stationary emission sources – Determination of the weight concentration of emissions of sulphur dioxide – Volumetric determination by barium perchlorate
CSN ISO 7935	Stationary emission sources – Determination of the weight concentration of emissions of sulphur dioxide – Characteristics of automated measuring methods
CSN 80 1900	Textile wastes. Basic terminology
CSN 80 61..	Group of standards for Products from non-woven textiles
CSN ISO 830	Containers. Terminology
CSN 83 05501-5	Physical-chemical analysis of sludges
CSN 83 5030	Effects and assessment of smells – Determination of parameters of nuisance by means of questioning of a panel sample of inhabitants
CSN 83 5031	Determination of smell substances in the ambient air by means of a field survey
CSN 83 8001	Terminology for wastes
CSN 83 8001	Terminology for wastes. Amendment 1
CSN 83 8030	Landfilling of waste – Basic conditions for designing and construction of landfills
CSN 83 8032	Landfilling of waste – Sealing of landfills
CSN 83 8033	Landfilling of waste – Handling of seepage waters from landfills
CSN 83 8034	Landfilling of waste – Degasification of landfills
CSN 83 8035	Landfilling of waste – Closure and reclaiming of landfills
CSN 83 8036	Landfilling of waste – Monitoring of landfills
CSN 83 8039	Landfilling of waste – Operational rules of landfills
CSN EN 840-1	Mobile waste containers – Part 1: Containers with two wheels and volume from 80 l to 390 l for rack unloading equipment – Dimensions and design
CSN EN 840-2	Mobile waste containers – Part 2: Containers with four wheels and volume from 500 l to 1 200 l with dumping lid(s) for pin and/or rack unloading equipment – Dimensions and design
CSN EN 840-3	Mobile waste containers – Part 3: Containers with four wheels and volume from 770 l to 1,300 l with draw-out lid(s) for pin and/or rack unloading equipment – Dimensions and design
CSN EN 840-4	Mobile waste containers – Part 4: Containers with four wheels and volume from 750 l to 1 700 l with dumping lid(s) for pin and/or rack unloading equipment or suspension unloading equipment des. BG and/or wide rack unloading equipment – Dimensions and design
CSN EN 840-5	Mobile waste containers – Part 5: Requirements for design and testing procedures
CSN EN 840-6	Mobile waste containers – Part 6: Requirements for safety and protection of health
CSN EN 840-6	Mobile waste containers – Part 6: Requirements for safety and protection of health. Amendment A1
CSN ISO 9096	Stationary emission sources – Determination of the weight concentration and weight flow of solid particles in pipes – Manual gravimetric method

4. EU Legal Regulations:

Council Directive 75/439/EEC of 16 June 1975 on the disposal of waste oils
Amendment*: 87/101/EEC*

Council Directive 75/442/EEC of 15 July 1975 on waste
Amendment*: 91/156/EEC, 96/350/EC*

Council Directive 78/176/EEC of 20 February 1978 on waste from the titanium dioxide industry
Amendment*: 83/29/EEC*

Council Directive 82/883/EEC of 3 December 1982 on procedures for the surveillance and monitoring of environments concerned by waste from the titanium dioxide industry

Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and particular of the soil, when sewage sludge is used in agriculture

Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants

Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste incineration plants

Council Directive 91/157/EEC of 18 March 1991 on batteries and accumulators containing certain dangerous substances
Amendment*: 93/86/EEC, 98/101/EC*

Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment

Council Directive 91/689/EEC of 12 December 1991 on hazardous waste
Amendment*: 94/31/EC*

Council Directive 92/112/EEC of 15 December 1992 on procedures for harmonizing the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium dioxide industry

Council Decision 93/98/EEC of 1 February 1993 on conclusion, on behalf of the Community, of the Convention on the control of transboundary movements of hazardous wastes and their disposal (Basel Convention)

Council Regulation (EEC) 259/93 of 1 February 1993 on the supervision and control of shipment of waste within, into and out of the European Community
Amendment*: 120/97*

Commission Decision 94/3/EC of 20 December 1993 establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste

Council Directive 94/67/EC of 16 December 1994 on the incineration of hazardous waste

Commission Decision 94/575/EC of 20 July 1994 determining the control procedure under Council Regulation (EEC) 259/93 as regards certain shipments of waste to certain non-OECD countries

Commission Decision 94/721/EC of 21 October 1994 adapting, pursuant to Article 42(3), Annexes II, III and IV to Council Regulation (EEC) 259/93 on the supervision and control of shipments of waste within, into and out of the European Community

Commission Decision 94/741/EC of 24 October 1994 concerning questionnaires for Member States reports on the implementation of certain Directives in the waste sector (implementation of Council Directive 91/692/EEC)

Commission Decision 94/774/EC of 24 November 1994 concerning the standard consignment note referred to in Council Regulation (EEC) 259/93 on the supervision and control of shipments of wastes within, into and out of the European Community

Commission Decision 94/904/EC of 22 December 1994 establishing a list of hazardous waste pursuant to Article 1 (4) of Council Directive 91/689/EEC on hazardous waste

Commission Decision 96/302/EC of 17 April 1996 establishing a format in which information is to be provided pursuant to Article 8(3) of Council Directive 91/689/EEC on hazardous waste

Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls

Commission Decision 96/660/EC of 14 November 1996 adapting pursuant to Article 42(3), Annex II to Council Regulation (EEC) 259/93 on the supervision and control of shipments of wastes within, into and out of the European Community

Commission Decision 97/129/EC of 28 January 1997 establishing the identification system for packaging materials pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste

Commission Decision 97/138/EC of 3 February 1997 establishing the formats relating to the database system pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste

Commission Decision 97/283/EC of 21 April 1997 on harmonized measurement methods to determine the mass concentration of dioxins and furans in atmospheric emissions in accordance with Article 7 (2) of Directive 94/67/EC on the incineration of hazardous waste

Commission Decision 97/622/EC of 27 May 1997 concerning questionnaires for Member States reports on the implementation of certain Directives in the waste sector (implementation of Council Directive 91/692/EEC)

Council Decision 97/640/EC of 22 September 1997 on the approval, on behalf of the Community, of the amendment to the Convention on the control of transboundary movements of hazardous wastes and their disposal (Basel Convention) as laid down in Decision III/1 of the Conference of the Parties

Commission Directive 98/101/EC of 22 December 1998 adapting to technical progress
Council Directive 91/157/EEC on batteries and accumulators containing certain dangerous substances

Commission Decision 98/184/EC of 25 February 1998 concerning a questionnaire for Member States reports on the implementation of Council Directive 94/67/EC on the incineration of hazardous waste (implementation of Council Directive 91/692/EEC)

Commission Decision 98/368/EC of 18 May 1998 adapting, pursuant to Article 42(3) Annexes II and III to Council Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community

Commission Regulation (EC) 2408/98 of 6 November 1998 amending Annex V to Council Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community

Council Directive 99/31/EC of 26 April 1999 on the landfill of waste

Directive 2000/53/EC of the European parliament and the Council of 18 September 2000 on end-of life vehicles

Directive 2002/96/EC of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE)

Regulation (EC) No 2150/2002 of the European parliament and of the Council of 25 November 2002 on waste statistics

Council Decision 2003/33/EC of 19 December 2002 establishing criteria a procedures for the acceptance of waste at landfills pursuant to Article 16 of Annex II to Directive 99/31/EC

Directive 2002/95/EC of the European parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

ABBREVIATIONS

A	– Austria
BAT	– Best Available Technique
BDMW	– Biologically degradable municipal waste
BREF	– Best Available Techniques Reference Documents
CBC PHARE	– Cross Border Cooperation PHARE
CEI	– Czech Environment Inspection
CF	– Cohesion Fund
Commission	– European Commission
CSO	– Czech Statistics Office
CWM	– Center for Waste Management attached to T.G.M. WRI
D	– Germany
DK	– Denmark
EAGGF	– European Agricultural Guidance and Guarantee Fund
EC	– European Communities
EEA	– European Environmental Agency
EEC	– European Economic Community
EEPA	– Environmental education and public awareness
EIB	– European Investment Bank
EMAS	– Eco-Management and Audit Scheme
ERDF	– European Regional Development Fund
ESF	– European Social Fund
EU	– European Union
EUR	– Currency of the countries of the European Union
EUROSTAT	– Statistics Office of the European Communities
G	– Greece
GB	– Great Britain
GCD	– Ministry of Finance, General Customs Directorate
GDP	– Gross Domestic Product
I	– Italy
Id. No.	– Company identification number
ILG	– Institute for Local Government
IP CR	– Implementation Program of the Czech Republic (the name of the group of wastes that is dealt with by the implementation program is specified following the abbreviation)
IPPC	– Integrated pollution prevention and control
IRL	– Ireland
ISA	– Institute of State Administration
ISO	– International organization for standardization
ISPA	– Instrument for Structural Policies for Pre-Accession An EU program that helps countries applying for accession to EU to implement and harmonize the set of regulations required for accession
L	– Luxemburg
L–OW landfills	– Landfills where other waste may be deposited

MA – Ministry of Agriculture
MD – Ministry of Defense
ME – Ministry of the Environment
MEP – Municipal Authority of a municipality with extended competence
MEYS – Ministry of Education, Youth and Sports
MH – Ministry of Health
MI – Ministry of Informatics
MIT – Ministry of Industry and Trade
MMW – Mixed municipal waste
MRD – Ministry for Regional Development
MT – Ministry of Transport

NL – The Netherlands
NUTS – A unit for the purposes of statistical reporting in EU (La Nomenclature des Unités Territoriales Statistiques)

OECD – Organization for Economic Cooperation and Development

P – Portugal
PCBs – Polychlorinated biphenyls and other chemical substances listed in ME Decree No. 384/2001 Coll.
PHARE – Poland and Hungary Assistance for Restructuring of their Economics
PVC – Poly-vinyl chloride, plastic material

RA – Regional Authority
RDA – Regional Development Agency
REC – Regional Environmental Center
REE – Register of Economic Entities
Regional WMP – Regional Waste Management Plan
RWC – Regional Waste Management Center
RWMC – Regional waste management conception

S – Sweden
SCEA – Sectoral Classification of Economic Activities
SEA – Strategic environmental assessment
SEF – State Environmental Fund of the Czech Republic
SEP – State Environmental Policy of the Czech Republic
SF – Finland
SFs – Structural funds

T.G.M. WRI – T. G. Masaryk Water Research Institute

USD – U.S. dollar

WM – Waste management
WMIP – Waste Management Information System
WMP CR – Waste Management Plan of the Czech Republic
WMP of the generator – Waste Management Plan of the waste generator
WWTP – Waste water treatment plant

Ing. Leoš Křenek, in his own hand
Director of the Waste Department