

STATE AND DEVELOPMENT OF THE ENVIRONMENTAL COMPARTMENTS



AIR

WATER

LANDSCAPE

WASTE

NOISE



B4 WASTE

B4.1 REGISTRATION OF WASTE

The given data on the waste production and management are an output of the Waste Information System (ISOH) operated by the Water Research Institute – Centre for Waste Management for the Ministry of the Environment of the Czech Republic.

Data on waste for 2005 and 2006 were acquired from waste production and management reports sent to the Prague City Hall in accordance with the Act No. 185/2001 Code, on waste, the Decree of the Ministry of the Environment of the Czech Republic No. 381/2001 Code, issuing the Catalogue of Wastes and establishing other lists of waste, the Decree of the Ministry of the Environment of the Czech Republic No. 383/2001 Code, establishing details of waste management, and the Decree No. 352/2005, on management of electrical waste and electrical scrap, all in their valid wording.

The municipal waste shall mean the whole group No. 20 of the Catalogue of Wastes.

The waste production in Prague in 2005 and 2006 classified by the waste origin according to the OECD classification is given in Table.

Tab. B4.1a Waste production by origin as established by the OECD Classification [tonne.year⁻¹]

Waste	2005	2006
Waste from agriculture and forestry	15,381	13,517
Mining waste	2,228	3,968
Industrial waste	128,135	93,595
Energy industry waste (except radioactive waste)	89,529	29,711
Demolition waste (rubble)	2,003,187	1,575,307
Medical waste	5,494	6,467
Municipal waste	502,001	521,097
Other waste	789,173	1,223,516
Total	3,535,128	3,467,178

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Table gives the production pursuant to categories of waste in 2005 and 2006.

Tab. B4.1b Waste production in 2005 and 2006 according to category [tonne.year⁻¹]

2005			2006		
Waste category		Total	Waste category		Total
Hazardous	Others		Hazardous	Others	
186,313	3,348,815	3,535,128	156,453	3,310,725	3,467,178

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Management of waste in Prague in 2006 classified by their origin pursuant to OECD is given in Tables.

Tab. B4.2a Waste management methods according to the OECD Classification in 2006 [tonne.year⁻¹]

Methods of waste management	Waste by branch (CZ NACE)						Total	
	01-02 Waste from agriculture and forestry	10-14 Mining waste	15-37 Industrial waste	40 Energy industry waste	45 Demolition waste	Municipal waste		Other waste
R1 Use as fuel or similar	3				325	213,592	1,080	215,000
R2 Recovery/reclamation of organic solvents						679	6	685
R3 Recovery/reclamation of organic compounds						12	285	297
R4 Recovery/regeneration of metal					56,525	1,672	532,062	855,821
R5 Recycling/recovery of other inorganic materials		55,159	210,403			3		3
R7 Renewal of substances used for pollution reducing								5
R9 Refining of spent oils and reuse of oils			5					35,835
R10 Application into soil						676	35,159	
R11 Use of waste generated from the application of procedures given under R1 to R10						0	8	8
N1 Use of waste for reclamation	46							
N2 Sending WWTP sludge to application on agricultural land					30,312	19	290,139	320,516
N8 Sending (parts, wastes) for reuse or recovery							1	1
N10 Sale of waste as raw materials				0		17	55	72
N11 Use of waste for dumpsites recovery			135,236		3,640	1,580	370,135	510,591
N12 Storing of waste as technology material for the securing of landfills							20,000	20,000
N13 Composting						1,144	135,269	135,269
Total	49	55,159	345,644		90,802	219,394	1,384,207	2,095,255

Note: 0 means that the value registered is lower than 1 tonne.

Source: VUV T.G.M. – CeHO (ISOH), MHMP

Tab. B4.2b Waste disposal methods according to the OECD Classification in 2006 [tonne.year⁻¹]

Methods of waste disposal	Waste by branch (CZ NACE)						Total	
	01-02 Waste from agriculture and forestry	10-14 Mining waste	15-37 Industrial waste	40 Energy industry waste	45 Demolition waste	Municipal waste		Other waste
D1 Disposal on the ground level or underground						183,000	67,055	250,055
D3 Deep injection							30	30
D5 Disposal onto the special technically constructed dumpsites						1		1
D10 Terrestrial incineration			1,950			30	735	2,715
D12 Final or permanent disposal							1,213	1,213
Total			1,950			183,031	69,033	254,014

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Tab. B4.2c Pre-treatment of waste in the OECD Classification in 2006 [tonne.year⁻¹]

Pre-treatment of waste	Waste by branch (CZ NACE)						Total	
	01-02 Waste from agriculture and forestry	10-14 Mining waste	15-37 Industrial waste	40 Energy industry waste	45 Demolition waste	Municipal waste		Other waste
R12 Pre-treatment			2,383			39,073	257,815	299,271
D8 Biological treatment not specified elsewhere in this Chapter						182	2	184
D9 Physical and chemical treatment not specified elsewhere in this Chapter			12,037			3	14,177	26,217
D13 Treatment of composition or mixing of waste before the disposal thereof						1,021	48,860	49,881
D14 Treatment of other waste qualities (except treatment included in D13)			2,129			1,105	458	1,105
N9 Wreck a car processing			57			60		2,587
N18 Electro-waste processing								117
Total			16,606			41,444	321,312	379,362

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Tab. B4.3a Utilisation of waste by waste category in 2006 [tonne.year⁻¹]

Methods of the waste utilisation		Waste category		Total
		Hazardous	Others	
R1	Use as fuel or similar		215,000	215,000
R2	Recovery/reclamation of organic solvents			
R3	Recovery/reclamation of organic compounds		685	685
R4	Recovery/regeneration of metal	63	234	297
R5	Recycling/recovery of other inorganic materials	906	854,915	855,821
R7	Renewal of substances used for pollution reducing		3	3
R9	Refining of spent oils and reuse of oils	5		5
R10	Application into soil		35,835	35,835
R11	Use of waste generated from the application of procedures given under R1 to R10	8	0	8
N1	Use of waste for reclamation		320,516	320,516
N2	Sending WWTP sludge to application on agricultural land		1	1
N8	Sending (parts, wastes) for reuse or recovery	16	56	72
N10	Sale of waste as raw materials	16,279	494,312	510,591
N11	Use of waste for dumpsites recovery		20,000	20,000
N12	Storing of waste as technology material for the securing of landfills		135,269	135,269
N13	Composting		1,152	1,152
Total		17,277	2,077,978	2,095,255

Note: 0 means that the value registered is lower than 1 tonne.

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Tab. B4.3b Waste disposal methods according to the waste categories in 2006 [tonne.year⁻¹]

Methods of the waste disposal		Waste category		Total
		Hazardous	Others	
D1	Disposal on the ground level or underground		250,055	250,055
D3	Deep injection		30	30
D5	Disposal onto the special technically constructed dumpsites	1		1
D10	Terrestrial incineration	1,132	1,583	2,715
D12	Final or permanent disposal	1,200	13	1,213
Total		2,333	251,681	254,014

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

Tab. B4.3c Pre-treatment of waste by waste category in 2006 [tonne.year⁻¹]

Waste pre-treatment		Waste category		Total
		Hazardous	Others	
R12	Pre-treatment	698	298,573	299,271
D8	Biological treatment not specified elsewhere in this Chapter	2	182	184
D9	Physical and chemical treatment not specified elsewhere in this Chapter	25,641	576	26,217
D13	Treatment of composition or mixing of waste before the disposal thereof	10	49,871	49,881
D14	Treatment of other waste qualities (except treatment included in D13)	7	1,098	1,105
N9	Wreck a car processing	2,186	401	2,587
N18	Electro-waste processing	60	57	117
Total		28,604	350,758	379,362

Note: 0 means that the value registered is lower than 1 tonne.

Source: VÚV T.G.M. – CeHO (ISOH), MHMP

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Technology for waste treatment, processing, reuse, and disposal

Table provides the overview of facilities for waste treatment, processing, reuse, and disposal operated in Prague in 2006. Data on the operated facilities for waste treatment, processing, reuse, and disposal in Prague were acquired from received reports pursuant to the Annexes No. 22 and 23 to the Decree No. 383/2001 Code establishing details of waste management and issued decisions of the OOP MHMP (numbers of facilities).

Tab. B4.4 Overview of facilities for waste treatment, processing, reuse, and disposal in Prague, 2006

Facilities for waste treatment, processing, reuse, and disposal	Number	Designed capacity [tonnes.year ⁻¹]
R1 Facilities for energy use of waste	1	310,000
R2–R11 Facilities for material reuse of waste*	60	331,940
R12 + Z1 Facilities for pre-treatment of waste Sorting, packing, cuttings, etc.	114	327,270
D9 Facilities for physical and chemical treatment	12	19,955
D10 Incineration plants	2	3,360
D1 Dumpsites and landfills	1	713,226**

Note: The designed capacity is not known for every facility.

* data evaluation is taken from the Waste Management Plan of the City of Prague for 2006

** the designed capacity is given in m³, remaining capacity is given to 2nd January 2007

Source: ISOH – VÚV, MHMP

B4.2 COMPLETE SYSTEM OF MUNICIPAL WASTE MANAGEMENT WITH SORTING OF REUSABLE COMPONENTS OF MUNICIPAL WASTE

B4.2.1 System of municipal waste collection in Prague

In 2006 the implementation of the Project of Waste Management on the Territory of the City of Prague has been running for the ninth year. The Project principle approved by the Decision of the City Assembly No. 47 of 1996 is the entire City covering complete system of sorting of municipal waste. The waste sorted fall into the following categories of waste components:

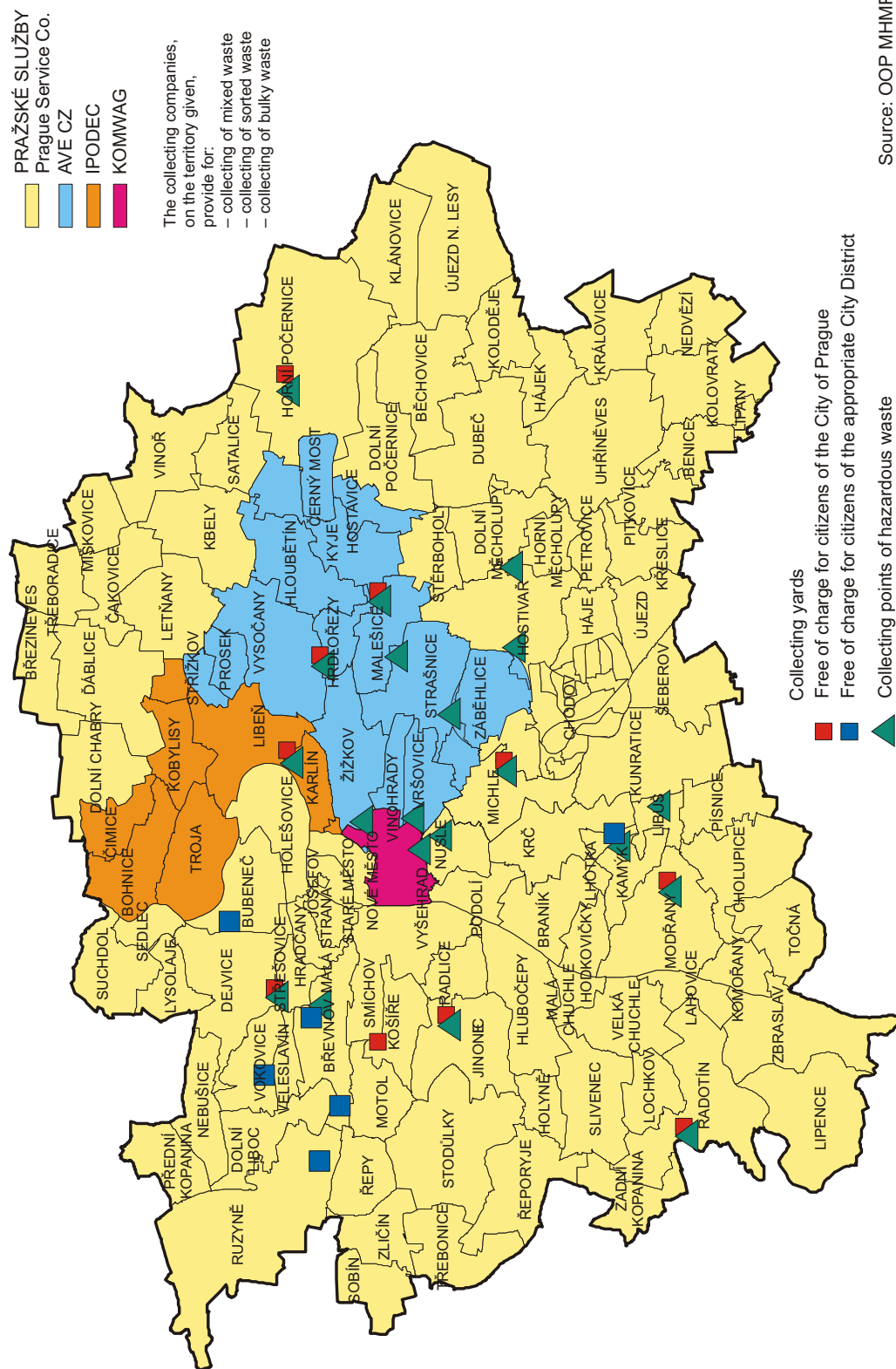
- paper and cardboard;
- coloured glass;
- clear glass;
- mixed plastics;
- beverage boxes;
- hazardous waste;
- ferrous and non-ferrous metals, demolition waste, electro-technical waste, waste from care for greenery, wood waste, tyres;
- bulky waste;
- mixed waste.

Except the municipal waste collection also the retaking of selected house equipments has been launched.

The inhabitants have the option to dispose respective components of municipal waste using the kerbside collecting system or delivery system in the ways as follows:

- **paper and cardboard, plastics, beverage boxes** – into collecting vessels dedicated to these components of municipal waste located directly in streets or in houses (on the territory of the Prague Historical Monument Reserve) and in collecting yards of the City; children may dispose paper and cardboard in schools participating in the competition in the waste paper collecting which was held for 12th year under the patronage of the Prague City Hall;

Fig. B4.1 The organisation for the collecting of mixed and sorted waste collecting by means of authorised companies



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- **hazardous waste** – at the mobile collection, in stationary collecting points, including collecting yards of the city, in pharmacies (unusable or expired medicals and mercury-filled thermometers);
- **ferrous and non-ferrous metals, demolition waste, electro-technical waste, waste from care for greenery, wood waste, tyres** – in collecting yards of the City;
- **bulky waste** – into high-capacity containers located in streets in regular intervals and in collecting yards of the City;
- **mixed waste** – into collecting vessels located in the house equipment of every house or building, or on a road;
- **retaking of electrical equipment** from households – in collecting yards of the City;
- **retaking of batteries** (used piles) – in Local Authorities of City Districts, in elementary and secondary schools and in collecting yards of the City.

Tab. B4.5 Production from the waste disposal [kt]

Year	Municipal waste	Disposed		Reuse		
		Land-filled	Total	Thermal - energy use	Material reuse	
					sorted out*	iron from cinder
1998	231.6	94.5	138.0	129.1	8.0	2.0
1999	240.9	31.3	209.6	193.6	16.0	3.1
2000	251.1	59.2	191.9	166.9	25.0	2.9
2001	257.2	31.9	225.3	196.3	29.0	2.9
2002**	281.8	42.5	239.3	202.0	37.3	3.3
2003	292.9	43.4	249.5	205.4	44.1	3.6
2004	305.0	42.4	262.6	208.1	54.5	2.8
2005	319.1	54.0	265.1	201.2	63.9	3.4
2006	326.4	53.7	277.7	200.5	77.2	3.3

* including hazardous waste

** amount of flood sludge is not included

Source: OOP MHMP

B4.2.2 Sorted collection of waste (paper, glass, plastics, and beverage card-boxes)

The sorted waste collection on the territory of Prague is provided or by means of the kerbside collecting system, vehicle collecting system, and a combined system.

The citizens mostly use the *kerbside collecting system*, in which sorted waste is turned into collecting vessels (containers), with upper and bottom discharge and 1,100 to 3,200 litres in volume. The number of collecting vessels is stable at present. **The number of collecting point of the kerbside collecting system is 3,200.** If larger capacity is required then the frequency of emptying is increased.

The vehicle collecting system is provided as combined with the kerbside collecting system on the territory of the Prague Historical Monument reserve. In this system the plastic collecting vessels, 120 to 240 litres in volume are located directly in households. There should about 1,200 of such collecting points. Yet the establishing of such collecting point depends on the consent of the landlord so collecting vessels **are allocated into over 1,000 premises.**

In 2004 the pilot project of **sorted beverage card-boxes collection** was launched. In 2006, when this project came to a current regime of separated waste vehicle collecting system, around 1,660 collecting points of separated waste (half of all collecting points of separated waste were) were set up with special composed collecting vessels, 240 litres or 1,100 litres in volume. Furthermore the collecting vessels are in all collecting yards of the City of Prague. The number of **sorted beverage card-boxes collection reached 424 tonnes** in 2006. The rising was caused by increased share of collecting vessels, 1,100 l volume in total.

Pilot project of sorted clear glass collection started in December 2004. In 2006 there were total 828 tonnes of clear glass collected.

The collecting points are determined by City Districts upon the consultancy with the collecting companies. The number of collecting points corresponds to the number of inhabitants and type of develop-

ment of the area. Each collecting point shall have the permit for special use of the road (if it is located on a road – on the driving lane, on the pavement, etc.).

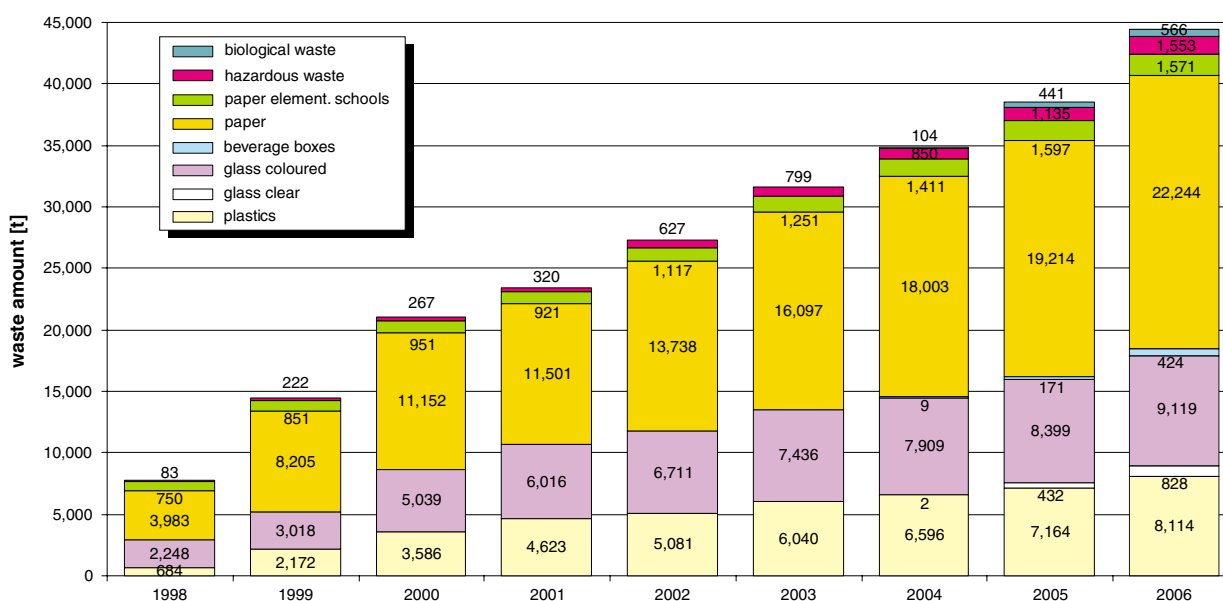
Tab. B4.6 The amount of sorted paper, glass, plastics, and beverage card-boxes [tonnes]

Year	Paper	Coloured glass	Clear glass	Plastics	Beverage card-boxes	Total*	Paper from elementary schools
1998	3,983	2,248		684		6,915	750
1999	8,205	3,018		2,172		13,395	851
2000	11,152	5,039		3,586		19,777	951
2001	11,501	6,016		4,623		22,140	921
2002	13,738	6,711		5,081		25,530	1,117
2003	16,097	7,436		6,040		29,573	1,251
2004	18,003	7,909	2	6,596	9	32,519	1,411
2005	19,214	8,399	432	7,164	171	35,380	1,597
2006	22,244	9,119	828	8,114	424	40,729	1,571

* sum of sorted amount of paper, glass, plastics, and beverage card-boxes (except paper from elementary schools)

Source: OOP MHMP

Fig. B4.2 The amount of sorted paper, glass, plastics, beverage card-boxes, and biological waste [tonnes]



Source: OOP MHMP

B4.2.3 Sorted collection of hazardous waste

The hazardous waste collection, that means the collection of solvents, acids, alkalis, photo-chemicals, pesticides, incandescent lamps and other mercury-containing waste, oils and greases (except for edible ones), paints, printing dyes, adhesives, resins, detergents and degreasing agents, unusable medicines, has been carried out at several levels on the territory of Prague as follows:

- **mobile collection** – in total 250 routes with 8 stops;
- **stationary collection** – in total 22 stationary collecting points of hazardous waste;
- **collection of drugs, medicines, and mercury-filled thermometers** in total 260 pharmacies.

The mobile collection is operated from March to November of the calendar year. The hazardous waste collection is carried out mostly from 15:00 to 19:00 o'clock; upon the request of City Districts it is also

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carried out from 8:00 to 12:00 at certain localities. The collection is carried out three times a year in City Districts. The number of collecting traces and stops corresponds to the number of inhabitants of the particular City District. Vehicle crew collect hazardous waste from citizens at certain place in certain time.

The stationary collection comprises of twenty-two stationary collecting points which are operated year-round where the inhabitants may return hazardous waste. Ten collecting yards of the City of Prague belong among 22 stationary collections.

The additional collection of unused medicines and mercury-filled thermometers is carried out in 260 pharmacies, which are involved into the system organised by the City. On the implementation of this type collection the Prague City hall cooperates with the Czech Chamber of Pharmacists. Inhabitants may return unusable or expired medicines at all pharmacies on the territory of the City of Prague that means also in those, which do not utilise the City system.

The additional collection of batteries and accumulators was launched in September 2001. Special 35-litre collecting containers (red standardised containers) were allocated at the Prague City Hall, premises of Local Authorities of City Districts, and at elementary and secondary schools where the Prague inhabitants may discard spent batteries and accumulators.

At the beginning of 2005 the Prague City Hall signed an agreement with the company of ECOBAT pursuant to which batteries are collected within the returning of batteries. Now there are about 440 points that retake accumulators and batteries.

Tab. B4.7 The hazardous waste amount collected in 1998–2006

Collection method	1998	1999	2000	2001	2002	2003	2004	2005	2006
Stationary collection	–	63	85	81	131	196	236	271	391
Mobile collection	117	112	93	83	107	92	82	46	32
Stationary and mobile collection in total	117	175	178	164	238	308	318	317	423
Collection of refrigerators	–	25	57	123	348	467	491	409	ZpO*
Collection of TV and PC monitors	–	–	–	–	–	–	–	100	ZpO
Collection of drugs, medicines, and mercury-filled thermometers	–	22	32	31	34	36	33	48	45
Collection of batteries and accumulators	–	–	–	1	7	8	8	–	ZpO
Total	117	222	267	319	627	799	850	874	468

* ZpO – collection and registration within re-taking (see the next Chapter)

Source: OOP MHMP

B4.2.4 Re-taking products

On the basis of new **Act No. 185/2001 Code on waste and amending certain other acts in wording of the following regulations** (hereinafter as “the act on waste”) there is the duty established for entities, which import or produce determined products, to provide for their **re-taking for free** from consumers.

The re-taking covers products as follows (Section 38 and the following of the act on waste):

- mineral oils and oils from bituminous minerals;
- electric accumulators;
- galvanic cells and batteries;
- incandescent and fluorescent lamps;
- tyres (these are not hazardous waste yet waste falling under specific regime);
- electrical equipment.

These products are still significantly represented in material flux of municipal waste, namely in hazardous components of municipal waste, the Prague City Hall has been organising their collection as long as since 1994. It can be stated for the sake of information that mineral oils and oils from bituminous minerals, other than raw ones, electric accumulators, galvanic cells and batteries, incandescent and fluorescent

lamps, refrigerators used in households, which the citizens sorted out account for about **70–75 %** of the total weight of the sorted hazardous waste.

The duty of re-taking was determined **by law** for all aforementioned products, except for refrigerators since **23rd February 2002**. The duty of re-taking of electrical equipment was established differently from **13th August 2005**.

Tab. B4.8 Ex-service electric equipment collection within re-taking [tonnes]

Equipments re-taken	2005*	2006
Refrigerators	171	635.0
TV and PC monitors	83	442.0
Collection of batteries and accumulators	6	7.0
Luminous sources	–	0.8
Total	260	1,084.8

* collection was launched on 13th August 2005

Source: OOP MHMP

The hazardous waste production was reduced by the amount of batteries and electrical scrap mentioned in the Table.

B4.2.5 Collecting yards

The part of the integrated waste management system of the City of Prague is its sorting of municipal waste. Except broadcast sorting of glass, paper, plastics, and beverage card-boxes, the network of collecting yards of the City is established. Collection yards enable to return selected types of waste at larger amount and in wide range of commodities. These are bulky waste bulky waste, waste from greenery, wood, demolition waste, metals, electro-technical scrap, paper, glass, plastics, and hazardous components of municipal waste. Moreover, re-taking points for discarded electrical and electronic equipment were established on collecting yards.

Natural entities with permanent residence on the territory of Prague can turn waste there for free (except of tyres and demolition waste over 1 m³), legal entities and natural entities with trade licence have this service for fee. The opening hours in collecting yards are: Monday–Friday from 8:30 to 18:00 o'clock (in winter time till 17:00 o'clock), Saturday from 8:30 to 15:00 o'clock.

At present the City of Prague operates ten collecting yards as follows:

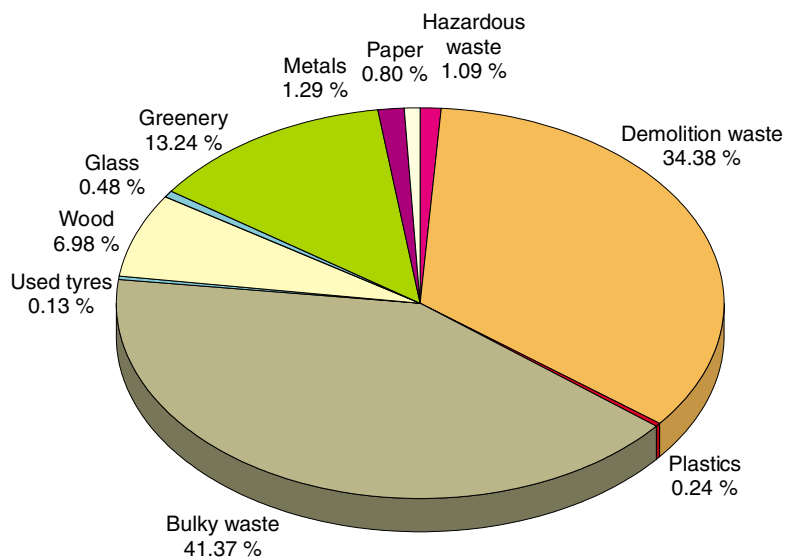
- Prague 4, Zakrytá Street;
- Prague 5, Puchmajerova Street;
- Prague 5, 4 Ke Kotlářce Street;
- Prague 6, 1 Proboštská Street;
- Prague 8, Voctářova Street;
- Prague 9, 1 Pod Šancemi Street;
- Prague 12, Generála Šišky Street;
- Prague 14, 5 Teplárenská Street;
- Prague 16, 2 V sudech Street;
- Prague 20, 3 Chvalkovická Street.

The collecting yard operation is provided by direct contract with the operating company or by means of a City District, which receives the annual purpose-bound, non-investment subsidy for the operation from the Prague City Hall.

Authorities of some City Districts, as Prague 4, and Prague 6, also operate their own collecting yards. The allocation of collecting yards, conditions and terms of operation, selection of waste types, opening hours as well as financial coverage are in full responsibility of respective local authorities of the corresponding City Districts.

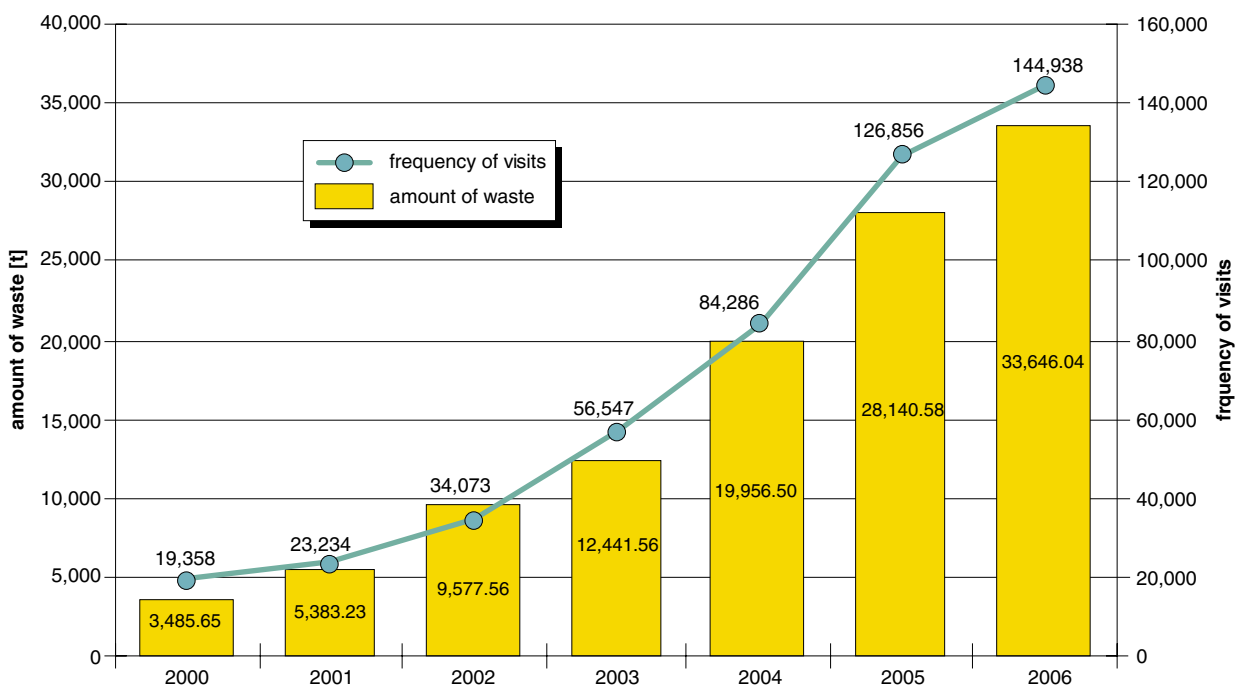
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Fig. B4.3 Weight percentage of respective types of waste at the Prague's collecting yards in 2006



Source: OOP MHMP

Fig. B4.4 The amount of waste returned and frequency of visits to the Prague's collecting yards in 2000–2006



Source: OOP MHMP

B4.2.6 Mixed waste

Provision for the collecting container large enough for mixed municipal waste was duty of the landlords or administrators of real estate. The total number of collecting containers at respective premises was approx. 112,000 pieces. The mixed waste produced also includes contribution from persons not having permanent residence in Prague. Their number is estimated to approx. 300,000.

Tab. B4.9 Production of mixed waste

Year	Waste amount [thousand tonnes]	Annual increase
1998	210.5	–
1999	208.6	0.85 %
2000	209.9	0.57 %
2001	211.8	0.95 %
2002	226.7	6.99 %
2003	230.2	1.54 %
2004	231.0	0.35 %
2005	234.7	1.02 %
2006	237.7	1.29 %

Source: OOP MHMP

Christmas tree collection

Citizens have the opportunity to leave their Christmas trees next to mixed waste containers. Collecting companies provide their collection within the mixed waste collection. Christmas trees are brought to composting facility for further treatment in localities, where the pilot project of collecting of biological waste has been carried out.

B4.2.7 Mixed bulky waste

The citizens may turn bulky waste into large-capacity containers (VOKs) with minimum volume 9 m³. The Prague City Hall reimburses the installation of approximately **8,800 large-capacity containers per year**.

The VOKs are allocated to the City Districts depending on their respective population and every City District has annually as minimum 24 VOKs at its disposal that means on average 1 VOK emptying per fortnight, to prevent uncontrolled dumpsite formation. Some City Districts place further VOKs at their expense and decision. The City Districts decide themselves on locations and dates of VOKs' placement pursuant to their own needs to locations announced in advance. The large-capacity container locations are, inter alia, stated at the Internet pages of respective City Districts. The citizens may also turn bulky waste into the collecting yards operated by the Prague City Hall. Some City District reimburses the installation of more VOKs.

Tab. B4.10 Production of mixed bulky waste [tonnes]

Year	VOK at the streets	Collecting yards of the City	Total
1998	13,128	129	13,257
1999	16,095	673	16,768
2000	16,150	916	17,066
2001	16,282	1,417	17,699
2002	16,525	2,212	18,737
2003	16,902	3,149	20,051
2004	17,601	6,891	24,492
2005	20,527	9,923	30,450
2006	17,991	13,900	31,891

Source: OOP MHMP

B4.2.8 Collection of bags filled with leaves attacked by horse chestnut leaf miner

In Prague horse chestnuts has been attacked by horse chestnut leaf miner for several years. The most effective method, how to protect trees against horse chestnut leaf miner, is removing off fallen leaves. For this reason the City Hall in cooperation with the City Districts, and collecting companies has been organizing collection of bags filled with attacked leaves for several years.

Citizens may pick up paper bags, where they can put raked leaves, at approx. 30 places on the territory of Prague (collecting yards, the Local Authorities of the City Districts, collecting companies' premises).

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Citizens then may leave bags filled with leaves in specified collecting places (collecting yards, collecting companies' premises) or in municipal waste incineration plant.

Tab. B4.11 Total costs of the collection of bags filled with leaves attacked by horse chestnut leaf miner (investment of Prague City Hall) [CZK thousands]

Year	Costs of bag production	Costs of collecting	Total costs (including VAT)
2002	130.5	106.6	237.1
2003	130.5	127.2	257.7
2004	70.0	136.3	206.3
2005	68.8	162.1	230.9
2006	45.8	162.4	208.3

Source: OOP MHMP

B4.2.9 Pilot projects

Pilot operation of the Composting Facility Malešice

In October 2004 the pilot operation of the first composting facility of the City of Prague "Composting Facility Malešice" was launched in Dřevčická Street 803/25, Prague 10 - Malešice. The composting facility is dedicated to the disposal of waste from the care for greenery both from citizens and from companies engaged in these activities. The biological waste is processed by means of anaerobic composting technology. 2,919 tonnes of waste were collected in 2006. The frequency of visits to the facility from March to December 2006 is approx. 330 visits per month on average. The facility was approved as a temporary structure and still has this status. The reason for is the planned construction of vast crossing. The original date of operation till the end of 2005 was already prolonged from the second time, this time to the end of 2009. If however the construction of crossing is started then the composting facility operation will be limited or stopped.

Pilot project of sorted biological waste collection

Pilot Project of Sorted Collection of Biological Waste on the territory of the Prague - Dolní Chabry City District (started in September 2004 by the Department of Infrastructure of the Prague City Hall) continued in 2005. The biological waste collection is, first of all, aimed at waste from gardens and gardening (foliage, grass, plant residues, branch pieces, fallen fruits) and partly on kitchen waste (residues of vegetables, fruit, teabags, coffee residue, and egg shells). For the Pilot Project there are in total 800 pieces of special brown plastic containers, so-called compostainers, 120 or 240 litres in volume, available which are located at the selected premises. The Project operator is the joint stock company of Prague Services, which delivers the waste to further processing (composting) to the composting facility JENA in Úhořčický near Velké Přílepy. The project for sorted collection of biological waste has shown very good results. In the course of the ongoing project within the period from September 2004 to January 2007 approx. 643.2 tonnes of biological waste were sorted and processed.

Pilot project for sorted collection of plastics (paper) at elementary schools of Prague 10

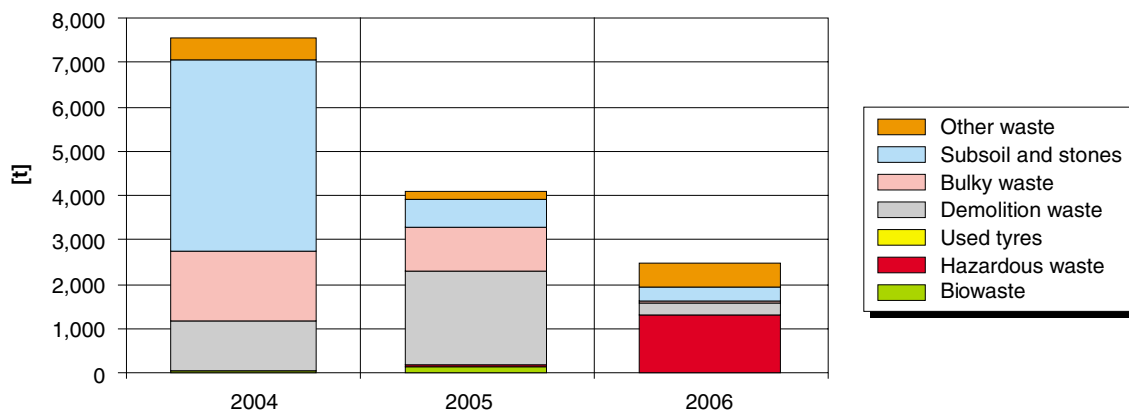
In the frame work of environmental education development at elementary schools the Prague City Hall in cooperation with City District of Prague 10 organized pilot project considered on sorted collection of plastics and paper at elementary schools. The interview action was carried out at elementary schools in Prague 10. On the basis of its results the Department of Environmental Protection of the City District of Prague 10 launched the pilot project in cooperation with Prague Services in June 2006. At first of all the collecting vessels for sorted waste were placed to elementary schools.

Collecting vessel for plastic waste was put to all elementary schools, which gave an indication to join this action (23 schools) on the basis of interview. Nine schools gave an indication to collect paper. The schools, which have been participated in competition in the waste paper collecting already, gave an indication to join the pilot project as well (nevertheless there is indispensable amount of waste paper produced in interval between the competitive collections). 4.2 tonnes of plastics and 6 tonnes of paper were acquired in period from June 2006 to December 2006, whereas the quality of sorted components was high.

B4.2.10 Cleaning up of illegal dumpsites

Cleaning up of illegal dumpsites is organised annually on the territory of Prague. Cleaning is mainly organised at parcels owned by the City of Prague or its City Districts. In 2006 **2,500 tonnes of waste** was removed from illegal dumpsites at expenses of the Department of Environmental Protection of the City of Prague. In total there was **22 commissions** realized for **approx. CZK 3.8 million**, without VAT. Indispensable amount of waste is cleaned up every year by the City District Authorities and by nonprofit organisations, which organise voluntary events.

Fig. B4.5 Amount of waste from illegal dumpsites cleaned up by the Department of Environmental Protection of the City of Prague [t]



Source: OOP MHMP

B4.2.11 Waste Management Plan of the City of Prague (Regional Waste Management Plan)

In 2005 the Waste Management Plan of the City of Prague was approved. This document serves as the background material for the waste originators, who exceed the legal limits and thus are obliged to develop the Waste Management Plan of the Waste Producer. In accordance with the Act No. 185/2001 Code, on waste and amending certain other acts in wording of the following regulations, the plan is evaluated annually. The evaluation for 2005 was carried out in November 2007. Detailed information can be found at the Internet Pages <http://envis.praha-mesto.cz/odpady>.

B4.2.12 Total costs of the complete municipal waste management system in Prague

Tab. B4.12 Total costs of the complete municipal waste management system in Prague

Total costs in CZK thousand						
Year	Sorted collection total	Bulky waste	Mixed waste	Hazardous waste	Collecting yards	Total
1998	18,772	22,115	396,694	4,432	1,549	443,562
1999	63,717	26,744	501,553	11,756	2,947	606,718
2000	82,906	30,239	505,018	10,476	5,222	633,861
2001	88,823	32,674	532,409	15,913	5,580	675,399
2002	109,661	32,879	563,647	19,566	6,277	732,029
2003	140,833	33,835	583,760	23,624	11,391	793,443
2004	177,560	37,816	644,685	25,341	18,689	904,091
2005	195,454	46,203	697,755	20,842	28,801	989,055
2006	219,051	42,501	717,813	6,646	30,232	1,016,243

Note: Costs for paper, glass, and plastics are given after the deduction of potential revenues from the sale of sorted raw materials.

Source: OOP MHMP

B4 WASTE

Contribution from the company of EKO-KOM, a. s.

The major portion of the sorted waste collection of paper, glass, plastics, and beverage cardboard boxes comprises of packages. Till 2001 the collection of returned packages on the territory of the Czech Republic was provided for by means of so-called Voluntary Agreement concluded in between the Czech Industrial Association for Packages and the Environment and the Ministry of the Environment of the Czech Republic. On the basis of the Voluntary Agreement the Prague City Hall signed an agreement with the authorised packaging company of EKO-KOM, a. s. in 2001. Since the Act on Packages was adopted the obliged entities must provide for returned packages collection or for the collection from these packages and may do so by means of so-called authorised company (as EKO-KOM, a. s.).

In 2006 reimbursement from the company of EKO-KOM, a. s. was CZK 90,575 million.

Reimbursement of costs for the collection, transport, and disposal of medicines by the Ministry of Finance of the Czech Republic

Based on the amended Act on Medicines the Ministry of Finance of the Czech Republic have been reimbursing costs related to the collection, transport, and disposal of medicines from pharmacies since January 2003. In 2003 the subsidy accounted for CZK 1,676,682, in 2004 it was CZK 1,509,013.80, in 2005 it was CZK 1,361,614.30. In 2006 the subsidy made CZK 815,148.10.

Subsidies from the State Environmental Fund of the Czech Republic

The City of Prague received the subsidy from the State Environmental Fund of the Czech Republic which fully covers the collection of refrigerators, including appropriate disposal thereof. The subsidy amount depends on the amount of collected and disposed refrigerators. On the basis of a decision of the Minister of the Environment of the Czech Republic the City should receive CZK 31,710,000. But re-taking of refrigerators was established on 13th August 2005. Appendices No. 2 from 2006 to contract with the State Environmental Fund appointed the maximal subsidy from SEF of **CZK 25,120,000**.

Out of this amount in 2005 the City received approx. CZK 17 million, in November 2006 City received subsidy of CZK 4.5 million (90 % of costs for refrigerators collected in 2001 to 2005). The remaining amount approx. CZK 2.5 million, should be reimbursed in 2007.

In 2002 the City of Prague received the subsidy from the State Environmental Fund of the Czech Republic at the amount of **CZK 4,310,000** for the construction of the collecting yard Spořilov.

Tab. B4.13 Total costs minus revenues from the company of EKO-KOM (for sorted waste), from the Ministry of Finance of the Czech Republic (for drugs and medicines), and for revenues from State Environmental Fund of the Czech Republic (for the collection of refrigerators)

Total costs in CZK thousand		
Year	Sorted collection total	Total
1998	18,772	443,562
1999	63,717	606,717
2000	82,906	633,861
2001	65,924	651,374
2002	70,130	688,488
2003	70,045	713,716
2004	106,467	826,194
2005	113,547	905,786
2006	128,476	925,668

Source: OOP MHMP

Authorised waste managements companies on the territory of Prague

The up-to-date list of waste management licences (pursuant paragraph 14 of Act No. 185/2001 Code on waste) can be found at the Internet pages: <http://www.praha-mesto.cz/odpady/souhlasny.asp>.

B4.3 HAZARDOUS CHEMICALS MANAGEMENT

B4.3.1 Control of placing of hazardous substances and preparations on the market

As the Czech Republic joined the European Union legislation concerning the placing of chemicals and chemical preparations on the market has been harmonising with the European Communities legislation. The European Parliament and Council Regulation No. 1907/2006 on concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH, hereinafter Regulation) inured on 1st June 2007, but the major part of Regulation's Catches will come to effect on 1st June 2008, eventually later. Regulation is superior to the Act No. 356/2003 Code on chemicals and chemical preparations and amending certain other acts. In term from 1st June 2007 to the time the amendment of Act No. 356/2003 Code come into effect (which will adapt the Regulation), the infringement of precaution the Material Safety Data Sheet (MSDS) can not be penalized.

The demand for MSDS are in some detail different from valid Czech legislative (for example rearrangement of some parts of Material Safety Data Sheet, urgency to quote electronic address, duty to quote product ingredients, that have Persistent Bio-accumulative and Toxic characteristics, which was then in significant extent amended by the Act.

The Department of Environmental Protection of the Prague City Hall (OOP MHMP), as the competent authority of public administration, has been carrying out control of compliance with provisions of the act on chemicals by legal and physical entities being authorised for performing business on the territory of the City of Prague.

In the period from 1st January 2007 to 31st October 2007 the officers of the Department of Waste Management of OOP MHMP checked in total 70 companies, which produce, import, export, or distribute hazardous chemicals and chemical preparations and have their registered office, or operating premises on the territory of the City of Prague.

The overview gives structured list of the controlled companies sorted by their core business activity. It was found during the inspection in eleven cases that the company is solely a mediator of the hazardous chemicals import, or imports hazardous chemicals for its own consumption, or potentially it has already suspended its activities. This means that their activities are not subject to the scope of the act on chemicals.

Inspections pursuant to the Act No. 356/2003 Code in valid wording	
Manufacturers	6
Importers	1
Primary distributors	29
Distributors	28
Others	
Mediators	1
Terminated activities	5

The companies rectified the deficiencies found at inspections within prescribed periods.