



MINISTRY OF THE ENVIRONMENT OF THE SLOVAK REPUBLIC



**STATE OF THE ENVIRONMENT REPORT
SLOVAK REPUBLIC 2006**





While **handling waste** or otherwise treating waste everyone shall be obliged to protect human health and the environment.

§ 18 par. 1 of the Act No. 223/2001 Coll. on Waste, including several changed and subsequently amended other laws

• WASTE AND WASTE MANAGEMENT

Initial situation

Waste management in the SR entered a new phase through adopting a new **Waste Management Programme of SR for the years 2006-2010**, approved by the Government Resolution 118 of February 15, 2006.

Since 2006, it is prohibited to eliminate **biologically degradable waste** from yards and parks, including the waste from graveyards and other greenery from the lands of legal entities, natural persons, and civic associations, if part of the municipal waste. The prohibition eliminated the disposal of any “green bio-waste”, which limited its deposition on landfills, in compliance with the EC strategy.

Since January 1, 2006, the possibility to continue to keep an **old vehicle** on the basis of an affidavit was no longer applicable.

Strengthened competencies of the SEI within the **trans-boundary waste transport** include more power to carry out revisions at waste generation sites.

Balance of waste generation

Waste generation (t)

Waste category	Amount (t)
Hazardous waste	666 645
Other waste	16 598 420
Municipal waste	1 623 306
Total	18 888 371

Source: SEA, SO SR

Generation of waste located on the market (t)

Waste category	Amount (t)
Hazardous waste	535 068
Other waste	12 349 065
Municipal waste	1 623 306
Total	14 507 440

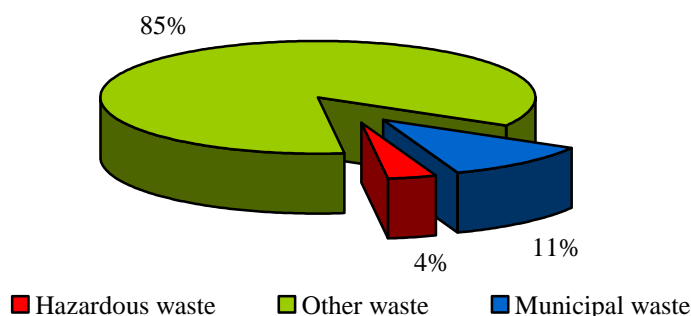
Source: SEA, SO SR

Compared to 2005, the annual increment in waste put on the market is about 33 %. **Other waste** is the greatest waste category responsible for this situation, with as much as 40 % annual increment.

The increase existed in hazardous waste generation by 5 %, compared to the previous year.

Municipal waste includes both waste categories (O and H). However, it is necessary to separate the category of municipal waste considering the unique character of its regime, typical of municipal waste.

Percentage share of waste categories on total amount of generated waste in 2006



Source: SEA

In the area of waste generation by **economic activities** classification, **manufacturing industry** has been the **dominating** component over the recent years, **with 58 %** share. Sector of transport and communications follows with 19 % (the annual increment of this sector was over 2 mil. tons of waste), building industry with 7 %, agriculture with 6 %, and trade with 4 % share. It is necessary notice that the amount of waste by particular economic sectors is not calculated municipal waste.

Waste generation by particular economic sectors in 2006 (t)

Economic sector	Total	Hazardous waste	Other waste
Agriculture	741 444.24	25 947.38	715 496.86
Fishery	519.01	0.77	518.24
Industry total	7 525 034.45	331 264.09	7 193 770.35
Building industry	916 229.95	11 152.69	905 077.26
Trade	459 151.13	40 609.55	418 541.57
Hotels and restaurants	1 689.31	157.89	1 531.42
Transport and communications	2 407 595.21	64 193.80	2 343 401.41
Banking and insurance sector	2 469.24	32.45	2 436.79
Activities in domain of real estate	115 728.59	9 126.48	106 602.11
Public administration and defence	61 079.30	414.39	60 664.91
Education	810.70	155.52	655.17
Health service	79 912.16	6 306.68	73 605.49
Waste water treatment and waste disposal	283 122.93	34 754.23	248 368.70
Unknown	289 347.12	10 952.52	278 394.60
Total	12 884 133.33	535 068.46	12 349 064.88

Source: SEA

Waste treatment

Waste treatment activities

Code	Treatment activities
R1	Used mainly as fuel or to extract energy through different approach
R2	Solvent reclamation/regeneration
R3	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
R4	Recycling or reclamation of metals and metal compounds.
R5	Recycling or reclamation of other inorganic material.
R6	Regeneration of acids and bases.
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysers.
R9	Oil re-refining or other re-uses of soil.
R10	Treatment of soil to benefit the agricultural production or to improve environment.
R11	Use of waste obtained from the activities R1 to R10.
R12	Treatment of waste generated by any of the R1 to R11 activities.
R13	Storing of waste before using any of the R1 to R12 activities (besides temporary storage prior to collection at the place of waste generation).

Waste disposal activities

Code	Disposal activity
D1	Underground or surface waste disposal. (e.g. landfill)
D2	Treatment by soil processes (e.g. biodegradation of liquid or sludge waste in soil, etc.)
D3	Depth injection (e.g. injection of extractable waste into wells, salt mines or natural disposal sites, etc.)
D4	Disposal into surface tanks (e.g. disposal of liquid or sludge waste into pits, ponds, or lagoons, etc.)
D5	Specially engineered landfills (e.g. placement into separate cells with treated wall surfaces that are covered and insulated one from another and from environment, etc.)
D6	Discharging and dumping into water recipients, besides seas and oceans.
D7	Discharging and dumping into seas and oceans, including disposal to ocean bottom.
D8	Biological treatment non-specified in this annex that generates compounds and mixtures eliminated by any of the D1 to D12 activities.
D9	Physical-chemical treatment non-specified in this annex that generates compounds and mixtures eliminated by any of the D1 to D12 activities. (e.g. vaporizing, drying, calcinations, e.g.)
D10	Incineration on land.
D11	Incineration at sea.
D12	Permanent storage (e.g. placing of containers in mines, etc.)
D13	Mixing or blending prior to any of the D1 to D12 activities.
D14	Placing into other packaging prior to any of the D1 to D12 activities.
D15	Storage before implementing any of the D1 to D14 activities (besides temporary storage prior to collection at the place of waste generation).

Waste disposing

Handling with waste by means DO, O and Z codes (t)

Disposal code	Activity	Total	Hazardous	Others
DO	Handing over of waste for domestic use	107 300.58	99.98	107 200.60
O	Handing over to another subject	803 052.79	40 821.45	762 231.34
Z	Storage of waste	162 523.91	5 104.11	157 419.80
Total		1 072 877.28	46 025.54	1 026 851.74

Source: SEA

Waste recovery

There were **5 625 984 tons of waste recovered** in the SR in 2006. This represents **39 % of total volume of waste** located on the market. Despite the fact that great volumes of reclaimed waste grew almost by 1 mil. tons since 2005, volume of reclaimed waste in terms of its share on total waste generation dropped by 5 %. R5 activity – Recycling or re-extraction of other inorganic compounds has the greatest share on waste reclamation (45 %). R3 activities – Recycling or re-extraction of organic compounds that are not used as solvents (including composting and other biological transformation processes) show a 16 % share, R10 activities – treatment of soil for the purposes of agricultural returns or for improving the environment show a 14 % share, and R4 – recycling or re-extraction of metals and metallic compounds shows an 11 % share.

Waste recovery following codes R1 – R13 in year 2005 (t)

Code of recovery	Total	Hazardous waste	Other waste
R01	265 351.95	8 764.83	256 587.12
R02	5 547.53	5 395.81	151.72
R03	886 766.05	24 529.49	862 236.57
R04	599 862.59	11 819.57	588 043.02
R05	2 545 692.55	49 127.83	2 496 564.72
R06	849.63	849.07	0.56
R07	104.97	53.96	51.01
R08	171.42	164.70	6.72
R09	12 118.44	11 593.93	524.51
R10	800 771.22	12 638.78	788 132.44
R11	161 819.86	837.06	160 982.80
R12	46 360.34	2 920.61	43 439.73
R13	300 567.74	10 638.68	289 929.06
Total	5 625 984.30	139 334.32	5 486 649.98

Source: SEA

Waste disposal

Of total volumes of generated waste, **43 % of waste was disposed**, which in absolute numbers means **6 185 272 tons of waste**. Dominance of landfill waste is a historical rule, with a 91 % share on total waste disposal. Compared to 2005, volumes of waste disposed of at landfills doubled. This suggests that the year 2005 with its low volumes of waste disposed of at landfills was rather an exception. As of December 31, 2006, there were 160 landfills operated in Slovakia.

Number of landfills (towards 31.12.2006)

Region	Hazardous waste landfills	Landfills for not hazardous waste	Inert waste landfills	Total
Bratislavsky	2	6	2	10
Trnavsky	2	17	1	20
Trenčiansky	1	14	3	18
Nitriansky	3	19	2	24
Žilinsky	1	16	3	20
Banskobystricky	1	21	3	25
Prešovsky	1	22	1	24
Košický	3	13	3	19
Total	14	128	18	160

Source: SEA

Waste disposal following codes D1 – D15 in year 2005 (t)

Code of disposal	Total	Hazardous waste	Others waste
D01	5 646 390.70	111 250.10	5 535 140.61
D02	197 516.02	82 841.66	114 674.36
D03	13.11	0.03	13.08
D05	421.10	253.54	167.56
D08	108 299.27	26 210.01	82 089.27
D09	77 215.46	62 403.40	14 812.06
D10	98 850.98	49 146.53	49 704.45
D11	8.42	0.13	8.30
D12	24.14	0.67	23.47
D13	5 730.26	77.09	5 653.18
D14	833.75	309.02	524.73
D15	49 968.54	17 216.42	32 752.12
Total	6 185 271.76	349 708.59	5 835 563.16

Source: SEA

The important share of waste disposal, with 3 %, has D2 method, following D8 method, biological treatment which is generated wastes disposed by methods marked as D1 to D12 and method D10 – incineration on land contributes by 2 %.

Waste from electrical and electronic equipment (WEEE)

The year 2006 was the first complete year that brought practical information on the system of handling electrical appliances and electric waste. Producers of electrical appliances are obliged to meet the limits for 10 categories of waste collection, reclamation or recycling, as well as re-use the electric waste.

To ensure that these obligations are met, producers gathered together to form collective systems.

Collective systems in SR in 2006

Collective system	Category
ENVIDOM – Association of producers of electrical appliances for recycling	Categories 1 and 2
SEWA, Inc.	All categories
EKOLAMP Slovakia – Association of producers and distributors of lighting equipment	Category 5
ETALUX – Association of producers and suppliers of lighting equipment	Category 5
ENVI-GEOS Nitra, Ltd.	All categories
ENZO-VERONIKA-VES, Inc.	All categories
ELEKTRORECYKLING Ltd.	All categories
Brantner Slovakia, Ltd.	All categories
ZEO, Ltd.	Category 6
LOGOS Slovakia, Ltd.	All categories

Summary reports by producers of electrical equipment for the year 2006

Category under Annex 3 of the waste law	Introduced to market (kg)	Collected (kg)	Processed (kg)	Recovered (kg)	Recycled (kg)
1. Big domestic appliances	26 965 492.83	4 880 656.00	4 880 656.00	4 413 900.41	4 333 319.55
2. Small domestic appliances	3 889 013.05	477 121.00	477 121.00	394 162.31	331 776.44
3. IT and telecommunication devices	5 723 479.60	857 904.00	857 284.00	761 010.04	637 314.59
4. Consumer electronic devices	6 794 705.05	1 800 214.00	1 800 214.00	1 526 073.65	1 401 654.40
5. Sources of light	3 278 331.13	95 050.00	95 170.90	76 879.27	66 149.23
5a. Gass lamps	493 320.12	144 514.00	137 380.00	120 415.52	120 415.52
6. Electrical and electronic instruments	3 376 681.78	80 428.00	80 428.00	63 813.63	54 299.79
7. Toys, devices designated for sport and recreational use	519 638.76	2 650.00	2 644.00	2 403.69	2 165.44
8. Medical devices	67 960.29	30 778.00	31 438.00	27 017.30	25 716.91
9. Machines for monitoring and testing	53 789.02	33 993.30	33 993.30	29 799.77	28 130.54
10. Vending machines	180 074.00	180 119.00	180 844.00	163 067.03	158 350.00
	51 342 485.63	8 583 427.30	8 577 173.20	7 578 542.62	7 159 292.41

Source: SEA

There were placed on the market 51 thousand tons of electrical devices in Slovakia in 2005 (10.4 kg per inhabitant). Amount of collected WEEE was approx. 8.3 thousand tons (1.6 kg per inhabitant).

Old vehicle

There were 723 old vehicles processed in 2004, 3 922 in 2005 and 19 446 in 2006. In 2008 were operated 18 authorised facilities of old vehicle treatment.

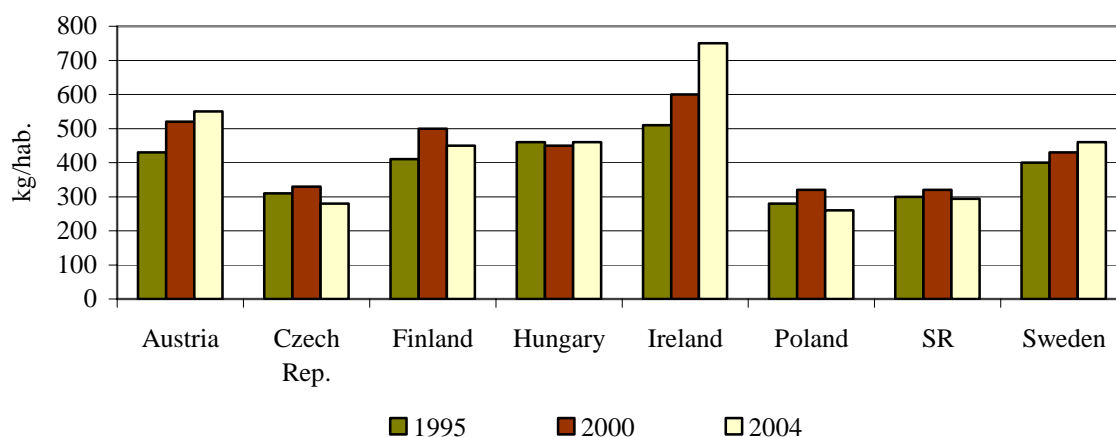
Municipal waste

According to data from the SO SR, there were **1 623 306 tons of total municipal waste** generated in Slovakia in 2006. This volume represents **301 kg of municipal waste per capita**. Compared to 2004, this is an increase by 12 kg per capita. Long-term waste **disposal on landfills** (78 %) is the **most frequent method** of municipal waste handling, following by incineration (5 %) and composting by 3 %.

In terms of **municipal waste composition**, mixed municipal waste (71 %) constitutes the major component of municipal waste together with bulky waste (9 %), small construction waste (6 %). Biologically degradable waste was 5 % and waste from street cleaning was 3 %.

According to the SO SR, **volume of separated municipal waste per capita is 16 kg**, which means that the level of municipal waste separation is the same as in 2005. Volume of **recovered municipal waste per capita increased by 15 kg**.

Municipal waste generation – international comparison (kg/habitant)



Source: OECD

Municipal waste generation and disposal (t)

Region	Total	D01	D02	D05	D07	D08	D09	D10	D11	D13	D14	D15	DO	O
Bratislava	249 456.45	95 083.94						128 433.80	240.00					2 964.71
Trnava	239 358.39	216 620.43		1 173.79				2.00						9 569.78
Trenčín	176 419.49	157 681.37	1.50	0.10	20.00	10.00	2.79	0.01		5.72	1.00	3.24		7 699.45
Nitra	224 442.79	203 412.74		891.26								0.83	34.00	8 077.52
Žilina	205 626.68	191 593.24											1.00	7 889.95
Banská Bystrica	163 116.80	146 391.05												14 423.18
Prešov	184 382.79	145 988.35		344.85			4.65	100.79				761.82		19 022.01
Košice	180 503.09	102 842.01						61 217.78				1 304.10		12 226.37
Total	1 623 306.48	1 259 613.13	1.50	2 410.00	20.00	10.00	7.44	189 754.38	240.00	5.72	1.00	2 069.99	35.00	81 872.97

Region	R01	R02	R03	R04	R05	R0	R0	R8	R09	R10	R11	R12	R13	Z
Bratislava	13.00		6 920.73	1 186.14	570.85					16.00	2.70		14 024.58	
Trnava	15.00	0.09	9 021.59	103.10	717.14		0.50		0.13		4.30	11.52	117.96	2 001.06
Trenčín	18.09		5 583.29	247.56	1 271.43	2.97		4.50	9.99	3.30	234.89	3.18	3 190.86	424.25
Nitra			7 817.63	53.38	1 126.23				10.92	210.10	11.56	1 279.55	260.55	1 256.52
Žilina	5.75		4 807.72	304.98	540.16									483.88
Banská Bystrica	144.03		1 056.18	77.96	711.85								3.62	308.93
Prešov	29.12		16 011.32	258.86	823.57				0.33	19.40	0.55	0.66	938.11	78.40
Košice	12.40		362.28	158.26	1 084.57				0.02			74.35	1 064.20	156.75
Total	237.39	0.09	51 580.74	2 390.24	6 845.80	2.97	0.50	4.50	21.39	248.80	254.00	1 369.26	19 599.88	4 709.79

Source: SO SR

Financial mechanisms of waste management

◆ Recycling fund

The recycling fund completed its five-year existence in 2006.

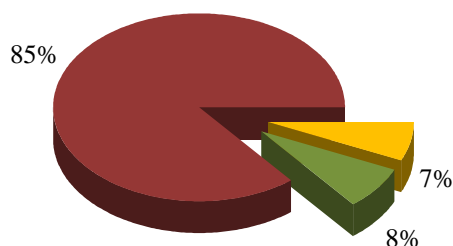
In 2006, the Fund gathered from the importers of ten charged commodities almost 565 million SKK. Fund revenues from contributions were not even 65 % of the 2002 revenues. Compared to the previous year, revenues were lower by 80 million SKK.

The fund paid almost 17 million SKK to more than 1 500 applications for contribution for separated waste, submitted by municipalities. The Waste Act recognizes the right of the municipalities to be paid a contribution of 1 300 to 1 800 SKK per ton of waste sent to be reclaimed.

◆ Environmental Fund

In 2006, the Environmental Fund for waste management received 187 applications for total volume of 490 mil. SKK in subsidies. Of the total number of 187 applications in the area of waste management, 86 applicants were funded, with the amount of 137 mil. SKK.

Proportion of granted financial support from the Environment Fund in 2006 by supported activities



Separated collection of waste introduction and construction of collection yards
 Separation and reclamation of bio-waste
 Demolition and reclamation of abandoned landfills

◆ Structural EU Funds

In recent years, structural EU Funds within the Basic Infrastructure Operation programme provided significant amount of funding for the development of waste management infrastructure. During the programme period of 2004-2006, 56 applications were approved as of June 15, 2007, amounting to 786 mil. SKK on non-repayable contributions. The State budget contributed with more than 367 mil. SKK, which amounts to 1 152 mil. SKK of total funding. The applicants participated with the total sum of 334 mil. SKK, including the public sector's contribution to projects at 5 %, which represents 35 mil. SKK, and the private sector contributing with the sum of 298 mil. SKK. Total amount of released funding is 1 487 mil. SKK. Projects that were approved and for which are 21 projects in the depository.

Released funding by type of supported activity for the years 2004-2006

Activity	Total funding
Support of activities relating to separated collection of waste	95 637 702 SKK
Support of waste reclamation activities	786 197 562 SKK
Shutdown and reclamation of landfills	604 682 451 SKK

Source: MoE SR

Packaging and waste from packaging

Volumes of packaging waste generated in the SR and recovered or incinerated in waste incinerators with energy recovery technologies (t)

Material	Packaging waste	Recovered waste or waste incinerated with energy recovery			
		Material recycling	Recycling total	Waste incineration with energy recovery	Waste and energy recovery and waste incineration in total
Glass	99 901	50 052	50 052	-	50 052
Plastics	90 205	16 290	16 290	10 644	26 934
Paper/cardboard	124 100	24 987	24 987	31 818	56 805
Metals	Aluminium	3 076	628	628	-
	Steel	13 579	6 161	6 161	-
	Total	16 655	6 789	6 789	6 789
Wood	15 839	5 154	5 154	5 497	10 651
Total	346 700	103 272	103 272	47 959	151 231

Source: MoE SR

Trans-boundary movement – import, export and transit of waste

For its licensing of transport waste over national borders in 2006, the MoE SR followed the EEC Council Regulation 259/1993 on the supervision and control of shipments of waste within, into and out of the European Community (Council Directive 259/93) taking into account the Treaty of Accession of the SR to the EU, and the relevant national legislation in the area of waste management. In compliance with the Treaty of Accession of Slovakia to the EU, also the import of waste under Annex II of the Directive (Green list waste) was allowed.

Over the period of 1.1.2006 to 31.12.2006, the MoE SR issued **194 decisions on trans-boundary transport of waste**, including **144 import licenses** (in total **748 330 tons** of waste), **36 export licenses** (in total **208 690 tons** of waste), **14 licenses for transit transport of waste** (in total **47 342 tons** of waste).

Summary of the number of effective licenses for trans-boundary transport of waste, issued in 2006

Issued in year	Import	Export	Transit	Total
2006	51	9	5	65
>2006	93	27	9	129
Total	144	36	14	194

Source: SEA

◆ Waste import

Of total number of 144 licences regarding the import of waste for recovery, **5 licences** were issued to allow the **import of hazardous waste** at total volume of **2 390 tons**. 14 licences were issued to import waste for energy extraction (through R1 activity) at total volume of 146 400 tons. The waste was imported from Austria, Hungary, Germany, and Czech Republic. 130 licences were issued to import waste for reclamation of material at total volume of 601 930 tons.

Licences issued in 2006 allowed waste import from 11 countries. Import from 8 countries made up 97.9 % of total permitted imported volumes.

◆ Waste export

Of total number of 36 licences regarding the export of waste for reclamation, 16 licences were issued to allow the export of hazardous waste at total volume of 9 899.5 tons.

Licences to export waste in 2006 involved 14 categories of waste, with 6 waste categories classified as the green list waste. In the area of permitted volumes for export, most exported waste included the green list waste (Annex II of the Directive), which was 94.7 %.

Total permitted volumes of waste by individual countries

Country/ISO code	Import to SR (t)	Export from SR (t)
Belgium	-	7 200
Belorussia	240	-
Czech republic	139 480	2 040.5
Netherlands	250	-
Hungary	204 600	200
Poland	170 400	116 400
Austria	173 070	600
Romania	5 000	-
Germany	39 540	189
Switzerland	500	-
Ukraine	15 050	82 000
Great Britain	200	60
Total	748 330	208 689.5

Source: SEA

◆ Waste transit

MoE SR decisions for transit transport issued in 2006 made it possible to transport 7 waste categories in total waste amount of 47 342 tons of waste.

Decisions of the MoE SR for transit of waste in 2006 allowed transport through the SR territory from the Federal Republic of Germany (30 792 t), Hungary (6 500 t), and Romania (1 020 t) and from Serbia and Monte Negro (6 000 t) to the facilities located in the destination countries.