

**Organisation of awareness-raising events  
concerning the implementation of Directive  
1999/31 EC on the landfill of waste**

REFERENCE: ENV.G.4/SER/2006/0049

**MINUTES HUNGARY**

30 May 2007

**BIPRO**

Beratungsgesellschaft für integrierte Problemlösungen

# 1 Description and results of specific events

## 1.1 Hungary: Minutes and outcome

Date	Hungary
27.-28.03.2007	<b>Venue:</b> Budapest / Ministry of Environment and Water <b>Participants:</b> 25 (4 from national authorities, 10 from regional inspectorates, 3 from organisation/association, 1 from University, 6 from enterprises) <b>Agenda:</b> 11 presentations (including EC and BiPRO) <b>Excursion:</b> Waste Management Centre in Puzstazámor

The information exchange and awareness raising event in Budapest was organised with the support of the Ministry of Environment and Water. The 25 **participants** comprised representatives from national and regional authorities, from organisations, universities and enterprises (participation list see chapter 1.2).

The workshop in Budapest was planned as a two days event. In total, 11 **presentations** were held (including BiPRO and EC). An excursion to the Waste Management Centre in Puzstazámor (landfill for non-hazardous waste) was realized the second day.

Presentations held addressed legal provisions and requirements both on European and national level as well as the current situation of waste management in Hungary stressing aspects such as regional planning, problems with the implementation and illegal dumping.

The excursion to the Waste Management Centre in Puzstazámor provided valuable insight into the technical standard of landfill mainly used for municipal waste (agenda see chapter 1.3).

As a result of discussions and presentations the following topics could be identified as priority issues and conclusions concerning the landfilling of waste in Hungary:

### ***Legal framework in Hungary***

The basic requirements of relevant the European legislation on waste has been transposed into national legislation in the *National Act XLIII of 2000 on waste management*. This has been further specified by two major ministerial decrees. *Decree KöM 22/2001* transposed the requirements of Directive 1999/31/EC. It contained provisions for location, technical standard, pre-treatment, acceptance of waste, monitoring of landfills, cost calculation, reporting and aftercare. The new regulation (*20/2006 KvVM Ministerial Decree on landfill and rules and criteria for landfill sites*) defines landfill classes as A (inert), B1b-B3 (non-hazardous) and C (hazardous). § 17 of 20/2006 KvVM contain the provision, that closure of an old dump site can be performed by means of digging out of the stored waste for disposal at a safe installation. *20/2006 KvVM Decree on rules and criteria for landfill sites* contains requirements of Directive 1999/31/EC and reflects the provisions of Decision 2003/33/EC.

As deadline for closure of old non-compliant landfills the year 2009 has been set. Timing for recultivation of old dumps are determined in the *National Recultivation Programme*. The issue of biodegradable waste is addressed in the national strategy on biodegradable waste.

The reduction targets for biodegradable waste correspond to European legislation (65% reduction target to be achieved by 2016). Under current national legislation the 75% reduction target even had to be achieved already by 2004. This however, will be adapted to EU requirements. Up to now no transitional period and extension has been applied for.<sup>1</sup>

### ***Facts and Figures of Hungary***

Currently about 4.65 Mt of MSW are generated annually in Hungary. Average composition has been evaluated and major single compounds are organic waste (37.5%) and paper (14.5%).

In the framework of a PHARE project a review of the number of MSW landfills in Hungary has been prepared in 2002. Out of the total number of 2,670 landfills identified at that time, 2,435 landfills have already been closed down. It has, however, to be admitted that recultivation of these sites has largely not yet been performed in an adequate way. Currently 28 hazardous waste landfills corresponding to EU requirements are operating in Hungary. In addition 178 non-hazardous landfills are currently operated with an existing permit. 53 of these sites will be authorized to continue operation after 2009. The remaining sites will be closed by this date (see Table 1-1).

<b>Landfill category</b>	<b>Current state</b>	<b>Planned to operate after 2009</b>
Hazardous	28	28
Non-hazardous	178	53
Inert	13	13

Table 1-1: *Number of landfills under operation and planned for operation after 2009 in Hungary (2002)*

The distribution of the identified 2,414 landfills where measures have to be taken according to the national review is illustrated in figure 6-1. 57 sites (*blue dots*) are corresponding to EU requirements and will continue operation after 2009. 125 (*red dots*) will have to be closed by 2009. 328 closed sites are currently under recultivation in the framework of ISPA projects (*green dots*). Remaining 1,904 sites (*black dots*) represent closed landfills where correct recultivation has not yet been accomplished. These sites (mainly small dumps) shall be recultivated until 2016 (data of 2005) (see Figure 1-1).<sup>2</sup>

<sup>1</sup> Presentation of Szabolcs Horváth, Waste Prevention and Treatment Section of the Environmental Management Department, Ministry of Environment and Water

<sup>2</sup> Presentation of Csaba Markó, Waste Prevention and Treatment Section of the Environmental Management Department, Ministry of Environment and Water

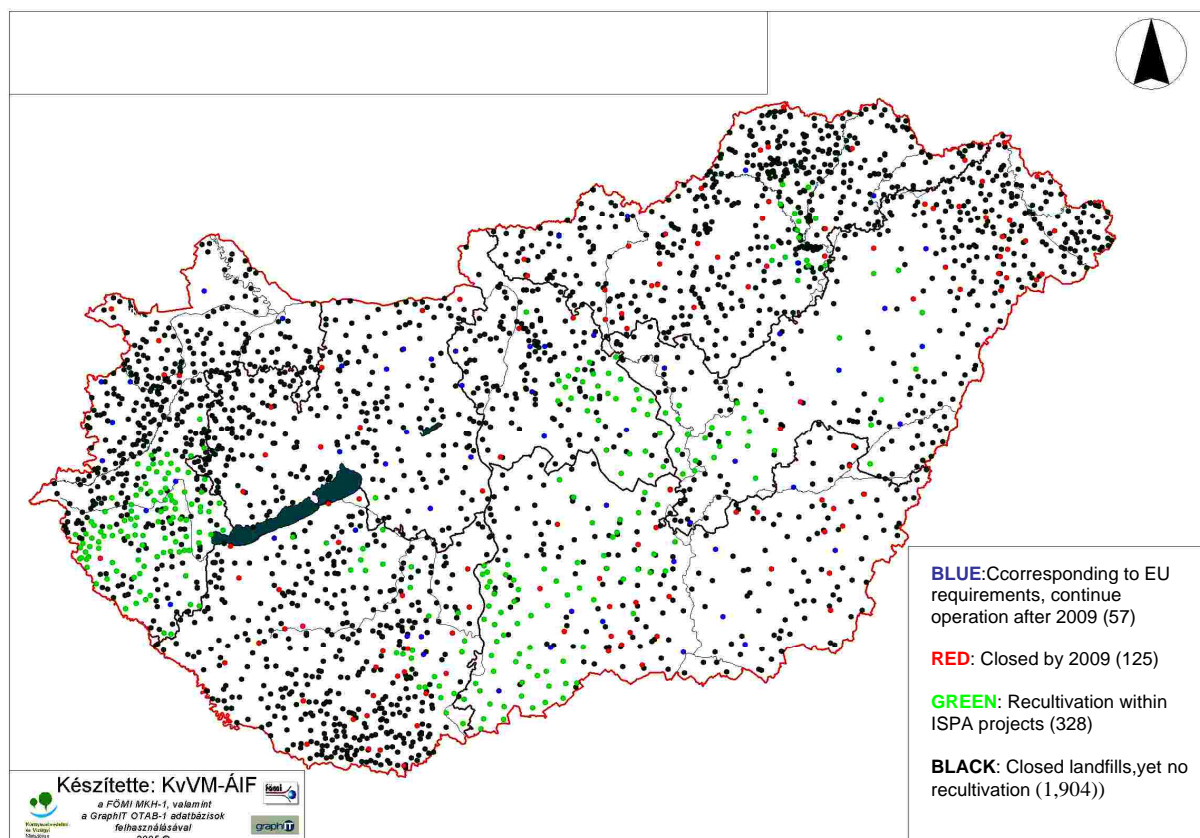


Figure 1-1: Distribution and state of the art of landfills in Hungary (2005)

The issue of biowaste has been addressed by the *Hungarian Compost Association*. According to estimations about 3.5 Mt of biowaste are generated annually in Hungary. Currently more than 85% of this amount is destined to landfill. The composting capacity in Hungary has been approximately 300 kt/y in 2005, however, only 120 kt/y of biowaste have been treated. From the existing composting installations in 2005 only 5 could market produced compost (4,500 t), as licenses have only restrictedly been provided. Assumed the estimated 2-2.5 Mt of compost, which could be generated annually in Hungary (if all biowaste was used for recovery) would be completely used on agricultural soils only 10% of the agriculturally used areas would be needed. Currently a number of composting facilities and MBTs are established in the framework of ISPA and cohesion fund projects.<sup>3</sup>

### Future Planning in Hungary

*Waste Management Plans* have been elaborated at national and regional level. For organisational purposes, waste management has been allocated to 12 waste management regions. To make waste management planning compatible with European funding periods and deadlines for biodegradable waste, national planning which is scheduled until 2008 will be extended until 2013-2016. The *National Strategy on Waste Management* until 2016 contains besides the planning for landfilling, objectives regarding prevention and separate collection of especially packaging waste. According to the strategy, landfilling of waste shall drop from current 80% to 50% in 2016, with a reuse/recovery rate doubled by 2009 (see Table 1-2).

<sup>3</sup> Presentation of Beáta Bagi, Hungarian Compost Society

Treatment Option (capacity used in kt)	2004	2009	2016
Thermal Treatment	155	420	918
Recycling/Recovery	540	1,114	1,860
Landfill	3,904	3,293	2,520

Table 1-2: *Development of incineration, recovery and landfilling in Hungary (2004-2016)*

Even under these assumptions free landfill capacity will drop from 45 Mt in 2004 to below 5 Mt in 2013. Consequently new capacity has to be installed to avoid short comings. The decrease in free capacity is illustrated in Table 1-3. The regional distribution of annual landfilling and free capacity is presented in Table 1-4.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Capacity (Mt)	43	40.5	34	21	17.5	14.5	10.1	6	3.4

Table 1-3: *Decrease of free landfill capacity in Mt in Hungary (2004-2013)*

Region	Ny-Dunántúl	Kö-Dunántúl	É-Mo	É-Alföld	D-Alföld	D-Dunántúl	Kö-Mo
Distribution of annual landfilling (kt)	346	479	480	466	513	310	822
Free capacity (kt)	1,225	1,445	4,457	4,731	6,609	4,720	2,767

Table 1-4: *Regional distribution of annual landfill and free capacity in Hungary in 2008*

To achieve the set targets for landfilling and biodegradable content composting capacity, paper recovery, home composting, MBT and incineration shall stepwise be increased until 2016. Separation capacity shall be extended to 373 kt. MBT capacity is envisaged to be 1,120 kt. Composting capacity shall be expanded to 750 kt/y. Two installations (150 kt) for energy recovery from refused derived fuel (RDF) shall be installed. By this means, landfilling shall be reduced to 44%. At the end of a number of ISPA and cohesion fund projects related to biowaste management, the overall composting capacity (composting and MBT) shall amount for 1,900 kt/y.<sup>4</sup>

The Ministry of Environment stressed the need for amendment of the legal framework on waste management to better meet the needs in the country. Planned amendments comprise the definition of landfill in order to include old dumpsites without protection devices, detailed conditions of closure and recultivation, the division of responsibilities for decisions on landfill categories, acceptance and closure (currently environmental inspectorates) and the liquidation of old dump sites (digging out waste). Furthermore the amendments will address the artificial barrier (no provision in Hungarian legislation concerning artificial sealing liner/geo-membrane), the requirements for the basic characterisation and acceptance of

<sup>4</sup> Presentation of Csaba Markó, Waste Prevention and Treatment Section of the Environmental Management Department, Ministry of Environment and Water

stable, non-reactive hazardous waste as well as the acceptance of asbestos waste.<sup>5</sup>

### ***Description of landfill visited in Hungary***

The Waste Management Centre of Pustazámor is located 23 km from Budapest and serves mainly the Budapest region. It includes a civic amenity site for the separate collection of waste, hazardous waste and WEEE and a landfill for non-hazardous waste. A treatment facility for the preparation of composting material is planned.

Construction started in 1999, operation in 2000. The total area of the site includes 91 ha and the construction is planned within 3 phases. Phase I includes an area of 18 ha, phase II and III are meant as enlargement with an area of 56 ha. It is planned that the area of phase I will be completely filled within 13 years and then phase II and III are going into operation. The landfill will reach a total volume of 20 Mm<sup>3</sup> and a high of 51 m. For covering the landfill, excavation material is used, which is derived from the construction work of the other parts of the landfill. After compacting the waste, the covering with inorganic material is carried out daily in the afternoon. For protecting the area, where waste is actually uploaded, a mobile fence is used to avoid the flying away of waste in the period of unloading.

The provisions of the Acceptance Criteria Decision seem to be well implemented. Visual inspections are made if a load arrives at the entrance. As well the load is weighted. Samples of waste, leachate, gas and soil can be analysed in an environmental laboratory included in the centre. A gas collection system is installed containing of 109 vertical wells in the landfill body. The gas is currently burned, but will be treated as soon as the content of Methane is higher than 20%.

Leachate is collected in basins which are provided with oxygen and reused for the landfill. 4 groundwater and 4 surface water wells are constructed for monitoring of the leachate. As limit values for groundwater, samples were taken before the operation time, which should not be exceeded. Below the bottom liner an early warning system (DDS system) is installed to monitor if the bottom liner is intact and no leachate is going through. Monitoring of air and soil quality as well as noises and topography are carried out regularly.

Gate fees for disposing of waste are 30 €/t for mixed MSW and 5 €/t for inert waste.

### **Major problems and deficits identified by the workshop participants in Hungary**

- (1) Landfilling is still the preferred option and the rate of landfilling in Hungary is high, even if steps have to be taken to reduce the amount of waste landfilled.
- (2) Efforts have been taken to close landfills and to start with recultivation in the last years. Anyhow about 2,000 old and low standard landfills, yet not monitored and recultivated exist in Hungary.
- (3) The rate of biodegradables within the waste fraction disposed of in landfills is

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<sup>5</sup> Presentation of Szabolcs Horváth, Waste Prevention and Treatment Section of the Environmental Management Department, Ministry of Environment and Water

around 37% and has to be reduced. The capacity for composting is too low and there are problems with the acceptance in the population and with legal requirements which hamper the use of compost.

- (4) Separation at source has started especially in bigger towns, but action has to be concentrated to avoidance of waste and further separate collection. Although there is considerable separate collection capacity, the corresponding processing capacity is not in place.
- (5) The “treatment prior landfilling principle” is not implemented sufficiently.
- (6) There exist inconsistencies in licencing landfills at regional inspectorates.
- (7) According to HuMuSz over 15,000 illegal dump sites are spread all over the country.
- (8) Problems occur with certain materials excluded from certain type of landfills by EU legislation, as the acceptance of gypsum for road construction within MSW landfills and the acceptance of C&D waste delivered from private persons (EWC 170904) which could be accepted without testing.

#### **Examples of good practice identified as potential tools to improve the implementation and enforcement in Hungary**

- (1) A graded waste fees system for citizens based on generation of waste is implemented.
- (2) A national study on potential sites for construction of new landfills (negative list of sensitive areas) was carried out.
- (3) Measures for the control of illegal dump sites are taken especially by the police and the allocation of 1% of national taxes are used for elimination illegal dumps.
- (4) Municipalities are responsible for waste management including the calculation of fees for citizens, contracting collectors and the bondage to serve specific landfills.
- (5) An annual collection of bulky waste and separate collection tours for hazardous waste are regularly carried out at household level.
- (6) HuMuSz initiated a project to publish data on illegal dumps at the internet to support actions from the civil society.

#### ***Priority activities for implementation of Landfill Directive requirements in Hungary***

- (1) The process of closure and recultivation of non-compliant landfills have to be speeded up.
- (2) More measures have to be taken to avoid waste. According to HuMuSz 10-15% of the wastes could be prevented by a “zero waste project”. The separation at source collection has to be enhanced and the treatment capacity for such separated waste

- streams has to be increased.
- (3) The composting capacity and the capacity of MBTs have to be increased. Quality standards would be an important tool to increase confidence. Home composting should be strongly enhanced as more than 50% of the population in Hungary lives in private houses with gardens.
  - (4) Activities for the elimination of illegal dumpsites have to be increased.
  - (5) The management of biowaste and sewage sludge treatment especially recycling has to be enhanced in order to reduce the fraction of biodegradables landfilled.
  - (6) The national legislation has to be amended to fully meet the requirements of the Landfill Directive and the Acceptance Criteria Decision. The process of amendment is under way.

***Suggestions addressing the European Commission for supporting the implementation***

- (1) A possibility for combined landfill/IPPC permits for larger landfills subject to IPPC requirements should be promoted.
- (2) Further clarification of definition of the “treatment prior to landfill principle” is needed.
- (3) A system for reclassification of waste and clarification when wastes become product is needed.

## 1.2 Participation List Hungary / Budapest // 27.-28.03.2007

	Name	Institution EN	Institution HU	Adress	Phone	E-Mail
<b>European Commission</b>						
1	Michail Papadoyannakis	European Commission, DG Environment		Avenue de Beaulieu 5, 1049 B-Brussels	+32 2 296 3914	michail.papadoyannakis@ec.europa.eu
<b>National Authorities</b>						
2	Szabolcs Horváth	Ministry of Environment and Water, Environmental Management Department, Waste Prevention and Treatment Section	Környezetvédelmi és Vízügyi Minisztérium (KvVM)	Fo utca 44-50, H-1011. Budapest	+36 1 457 3443	horvathsz@mail.kvvm.hu
3	Csaba Markó	Ministry of Environment and Water, Environmental Management Department, Waste Prevention and Treatment Section	Környezetvédelmi és Vízügyi Minisztérium (KvVM) Környezetgazdasági Főosztály	Fo utca 44-50, H-1011. Budapest	+36 1 457 3570	marko@mail.kvvm.hu
4	Réka Herczeg dr.	Ministry of Environment and Water, Legislation Development Department	Környezetvédelmi és Vízügyi Minisztérium (KvVM) Törvényelőkészítési Főosztály	Fo utca 44-50, H-1011. Budapest	+36 1 457 3332	herczegr@mail.kvvm.hu
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<b>Regional Authorities</b>						
6	Zsuzsanna Radányi	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Nyugat-Dunántúli Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	9700 Szombathely, Vörösmarty u. 2., 9701 Szombathely Pf. 183.	+36 94 328 188	nyugatudnantuli@zoldhatosag.hu
7	Judit Hajdu	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Észak-Dunántúli Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	9021 Győr Árpád u. 28-32., 9002 Győr Pf. 471	+36 96 524 000	eszakdunantuli@zoldhatosag.hu

8	Csilla Pádár	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Alsó-Tisza-völgyi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	6720 Szeged Felső-Tiszapart u. 17., 6712 Szeged Pf. 1048	+36 62 553 030	alsotiszavideki@zoldhatosag.hu
9	Gyula Kovács	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Észak-Magyarországi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	Észak-magyarországi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség, H-3501 Miskolc, Pf.: 379	+36 46 517 334	
10	Krisztián Koleszár	Inspectorate for Environmental Protection, Nature Conservation and Water Management (Middle - Danube - Valley)	Észak-Magyarországi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	Észak-magyarországi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség, H-3501 Miskolc, Pf.: 379	+36 46 517 334	
11	Dóra Kálmán	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Közép-Duna-völgyi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	1072 Budapest, Nagydíófa utca 10-12., 1447 Budapest, Pf. 541	+36 1 478 4400	kozepdunavolgyi@zoldhatosag.hu
12	Enikő Szónok	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Közép-Duna-völgyi Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	1072 Budapest, Nagydíófa utca 10-12., 1447 Budapest, Pf. 541	+36 1 478 4400	kozepdunavolgyi@zoldhatosag.hu
13	Ferenc Lévai	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Közép-Tisza-vidéki Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	5000 Szolnok Ságvári krt. 4., 5001 Szolnok Pf. 25.	+36 56 375 111	kozep-tiszavideki@zoldhatosag.hu
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15	Rita Farkas	Inspectorate for Environmental Protection, Nature Conservation and Water Management	Felső-Tisza-vidéki Környezetvédelmi, Természetvédelmi és Vízügyi Felügyelőség (KTVF)	4400 Nyíregyháza, Kölcsey u. 12-14., 4401 Nyíregyháza, Pf. 246	+36 42 598 931	felsotiszavideki@zoldhatosag.hu
<b>Organisations/ Associations</b>						

16	Beáta Bagi	Hungarian Compost Society	Magyar Minőségi Komposzt Társaság	H-2100 Gödöllő, Postbox 330	+36 28 512 490	alexa@komposzt.hu info@profikomp.hu
17	Csaba Kiss	Environmental Management and Law Association (EMLA)		1076 Budapest Garay utca 29-31 I/1. Hungary	+36 1) 322-8462 15 ext, 352-9925	emla@emla.hu drkiss@emla.hu
18	László Szilágyi	Waste Prevention Alliance Hungary (HuMuSz)	Hulladék Munkaszövetség (HuMuSz)	1111 Budapest Saru u. 11. Hungary	+36 1386 2648	szili@humusz.hu
<b>Institutions</b>						
19	Imre Szabó	University of Miskolc, Institute of Environmental Management Department of Hydrogeology and Engineering Geology		H-3515 MISKOLC-EGYETEMVAROS	003646-565076	hgszabo@uni-miskolc.hu
<b>Enterprises</b>						
20	Zsolt Szamek	A.S.A. Magyarország Ltd.	A.S.A. Magyarország Ltd.	Kőrösi út 53, H-2360 Gyál	+36 29 540-250	szamek.zsolt@asa-hu.hu
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23	Peter Szanto	Municipal Public Services Co., Budapest			+36-23-560-501	scantop@fkf.hu
24	Tamás Dudás	Technoplus Environmental Technology Development Ltd.	Technoplus Kft.	H-1142 Budapest Ráskay Lea Str. 77	36-1-2510823	dudas.tamas@technoplus.t-online.hu
25	Gabor Mile	Waste Management Centre of Pusztazámor				fkfzrt@fkf.hu

**1.3 Agenda Hungary / Budapest // 27.-28.03..2007**

Tuesday, 27. March 2007

9:00	Registration, Come together, including Coffee
Chairperson: Anke Joas, BiPRO GmbH, Munich, Germany	
10:00	Erdős Péterné (KvVM Environment Management Department, Head of Department) <i>Opening of the Workshop</i>
10:05	Anke Joas, Elisabeth Müller (BiPRO GmbH, Munich) <i>Welcoming of Participants and Introduction of the EU Project</i>
I. RELEVANT legislation AND STATUS QUO	
10:15	Anke Joas (BiPRO GmbH, Munich) <i>Overview on Relevant European Legislation – The Landfill Directive</i>
10:50	Michaïl Papadoyannakis (EU Commission, DG Environment, Brussels) <i>Status and Problems with the Implementation of European Legislation for Landfills – A European Perspective</i>
11:25	Csaba Markó (KvVM Environment Management Department, Deputy Head of Department) <i>Status and Development Plans for Implementation of Landfill Directive in Hungary</i>
12:00	Szabolcs Horvath (KvVM Environment Management Department) <i>Overview of Hungarian Legislation – Ministerial Decree on Landfill</i>
12:20	Elisabeth Müller (BiPRO GmbH, Munich) <i>Legal Requirements for Acceptance and Control During Operation of Landfills</i>
12:45	Questions and Discussion
13:00	LUNCH BREAK
Chairperson: Anke Joas, BiPRO GmbH, Munich, Germany	
II. SPECIFIC ASPECTS OF IMPLEMENTATION	
14:30	Barnabás Bese (North Hungarian Environmental Inspectorate) <i>Problems with the Implementation of Legislation in Aspect of a Regional Authority</i>
14:55	Csaba Kiss (Environmental Management and Law Association, Hungary) <i>2 Case Studies – 2 Permitting Processes of a New Landfill in Szentgál and an Existing Landfill in Csörög</i>
15:15	Szilágyi László (Waste Reduction Alliance Hungary) <i>Landfills and Illegal Waste Dumps – A Civil Point of View</i>
15:45	Questions and Discussions
15:55	COFFEE BREAK
16:05	László Alexa (Hungarian Compost Society) <i>Reduction of Biodegradable Waste in Hungary – Targets, Strategy, Difficulties</i>
16:30	Tamás Dudás (Technoplus Lt) <i>Landfill on the Top of a Landfill – Some Aspects of the Szeged Regional Waste Management Project</i>
16:50	Elisabeth Müller (BiPRO GmbH, Munich) <i>Experiences with the Implementation of the Landfill Directive from the Previous Project Events</i>
17:10	Questions and Discussion
17:30	END OF THE FIRST WORKSHOP DAY

Wednesday, 28 March 2007

III. EXCURSION	
9:30	Excursion to the Waste Management Centre Pusztázámor
Chairperson: Anke Joas, Elisabeth Müller BiPRO GmbH, Munich	
IV. SPECIFIC LANDFILLING PROBLEMS AND CONCLUSIONS OF THE WORKSHOP	
12:30	Questions, Open Discussion, Final Conclusions
14:00	END OF THE WORKSHOP