

**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 SLOVENIA**

30 May 2007

**BIPRO**

Beratungsgesellschaft für integrierte Problemlösungen

# 1 Description and results of specific events

## 1.1 Slovenia: Minutes and outcome

Date	Slovenia
31.01.-01.02.2007	<b>Venue:</b> Ljubljana / Ministry of Environment and Spatial Planning <b>Participants:</b> 32 (10 from authorities, 5 from organisations, 7 from municipalities, 6 from enterprises, 3 from laboratories) <b>Agenda:</b> 12 presentations (including EC and BiPRO) <b>Excursion:</b> Barje landfill for non-hazardous waste

The information exchange and awareness raising event in Ljubljana has been organised with support of the Ministry of Environment and Spatial Planning. The 32 **participants** comprised representatives of both national and local authorities as well as representatives of laboratories for sampling and testing, waste managers and landfill operators (participation list see chapter 1.2)

The workshop in Ljubljana was planned as a two days event. In total, 12 **presentations** were held (including BiPRO and EC). An excursion to the Barje 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 Slovenia stressing aspects such as statistical data, administrative infrastructure, landfill tax, cooperation and permitting. The Ministry of Environment and Spatial Planning, the Environmental Agency, the Environmental Inspectorate and the Statistical Office each gave presentations. Representatives from a municipality presented the status quo of waste management in their municipality. In addition practical experiences with landfilling and its technical requirements were presented from waste operators. Representatives from an NGO were not present at the event.

The excursion to the Barje landfill for non-hazardous waste covering the Ljubljana region provided valuable insight into technical standards and a technically well adapted landfill in Slovenia (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 Slovenia:

### ***Legal framework in Slovenia***

The European legal requirements of Directive 2006/12/EC, 1999/31/EC and Decision 2003/33/EC have been well transposed into national legislation. The basic strategy for waste management in Slovenia is set in the *Resolution on National Environmental Action Plan 2005-2012* and in the *Operational Programmes* for the management of certain waste streams. The basic strategy for waste disposal is set in the *Operational Programme on waste disposal* which aims at waste prevention, reduction of biodegradable waste landfilled and a high ratio of material recovery and recycling of waste material. *The Rules on the Landfill of*

Waste from the year 2000 were repealed by the *Decree on the Landfill of Waste* in 2006. The criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC were fully met herein.

In 1999 an *Inventory of the landfills in the Republic of Slovenia* (Project No. 57-ID/99) has taken place. In this study 58 municipal landfills and 23 industrial landfills were documented. After the inventory all landfill operators had to decide between the following two options:

- (1) To continue the operation until 2008 or after 2009 by the means of accepting the criteria and carrying out a *Technical Adjustment Programme* to get a permit issued in line with national legislation (valid until 31 October 2007 for IPPC installations and until 31 December 2008 for others). There is a possibility of permit prolongation until 16 July 2009, if the landfill fulfils the requirements and deadlines stated in the adjustment program, which has been confirmed by the Ministry. The program of adjustments should be completed in practical adaptations until the 31 December 2008.
- (2) To accept *Minimal Technical Adjustment Programme* to get a closure decision for the closure until 31 December 2008. Those minimal technical requirements are laid down in the *Guidelines for arrangement of landfills that will stop operation until the 31. December 2003*.<sup>1</sup>

Additionally a landfill tax is set in place on the basis of the *Environmental Protection Act* for the operator of landfills based on units for soil and water pollution. The calculation system considers the severeness of the environmental effect. For inert waste landfills the coefficient introduced is 1, for non-hazardous waste landfill 2 and for hazardous landfills 10. In 2002 around 13 million € of tax were received in the waste management sector. This amount decreased slightly until 2005 (12 million €) for the reason of a decreasing amount of biowaste landfilled. Until 31.12.2006 the operator could apply for an exception of the landfill tax. From this year on exceptions are not given anymore. Instead the municipality can apply for funding.<sup>2</sup>

The Acceptance Criteria Decisions opens the MS the possibility to decide if only independent authorised laboratories can do the sampling and testing for a landfill or if operators are allowed to do so. According to Slovenian legislation sampling and testing as required by the Acceptance Criteria Decisions by the landfill operators is not allowed. Sampling and testing has to be carried out by the authorised laboratories only (exception is gas monitoring, if allowed by the Ministry in the permit). In this case the Slovenian legislation has chosen the stricter of the two possibilities given in Annex III of the Acceptance Criteria Decision.

For testing the leachate limit values standards EN12457-4 was chosen, requiring the testing of the leachate performance out of 10L/s.

### ***Facts and Figures of Slovenia***

83 landfills exist in Slovenia, of which are 7 landfills for inert waste, 74 landfills for non-

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<sup>1</sup> Presentation of Radovan Tavzes, Ministry of Environment and Spatial Planning, Environmental Directorate

<sup>2</sup> Presentation of Marjanaa Ulrich-Supovec, Environmental Agency, Waste Management Section

hazardous and 2 landfills for hazardous waste. Out of the total number, 60 landfills are municipal landfills, while another 23 are operated by the industry. The decision for continuing operation after 2009 yet has not been completed. 17 landfills in former operation do not receive waste anymore and 20 landfills have closed down. 38 existing landfills received a permit including the requirements for the conditioning plan. 8 new landfills have received a permit including the requirements on the conditioning plan and another 22 are waiting for an IPPC permit. Temporary permits are given to 38 landfills until 31.12.2007. They are following a conditioning plan set in cooperation with the Environmental Agency, who is responsible for the permits. After 2009 it is planned to operate 13 municipal landfills only, one for each region. The Environmental Agency is giving the permits, but the municipalities in the end decide which landfill will be kept.<sup>3</sup>

A survey about the amounts of waste brought to landfills was conducted on a 3 yearly basis until 2001. Since then it is carried out on a yearly basis. Considering this data the amount of waste landfilled in both non-hazardous and hazardous waste landfills has been significantly increased between 2002 and 2005 (see Table 1-1).

Year	2002	2003	2004	2005
Amount of waste brought to landfill (kt)	849	850	750	1,028
Amount of waste landfilled (kt)	821	820	727	752
Amount of waste disposed of in hazardous landfills (kt)	0.33	1.25	1.90	4.22

Table 1-1: Amount of waste brought and landfilled in Slovenia (2002 to 2005)

The share of waste brought directly by citizens was 265 kt in 2005. The other 763 kt were collected by the public service. 86% of waste landfilled is mixed MSW. Other relevant waste fractions are C&D waste, waste from purifying plants and packaging waste. 97% of the landfilled hazardous wastes belong to the waste type EWC 170605, construction materials that include asbestos.<sup>4</sup>

At the Ministry of Environment and Spatial Planning exist some records of illegal dumping actions. Furthermore a couple of studies have been conducted regarding wild dump sites. A complete register of such dumping places does not exist. It has been stated, that almost no municipal waste is dumped illegal, it is rather waste from small companies (SMEs) or from construction and demolition.

### **Description of landfill visited**

The Barje landfill for non-hazardous waste is situated south of Ljubljana and mainly serves the region of the capital. The major part receiving the landfill is mixed MSW. It consists of a

<sup>3</sup> Presentation of Irena Koželj, Environmental Agency, Waste Management Section

<sup>4</sup> Presentation of Mojca Žitnik, Statistical Office of the Republic of Slovenia, Department for Environmental and Engineering Statistics

civic amenity site, a landfill for non-hazardous waste, a storage site for waste tyres and an environmental laboratory. The landfill is divided into cells and will have a maximum height of 24 m.

The requirements of the Waste Acceptance Criteria Decision are well implemented. Loads coming in are visually checked and weighted. Regular samples are taken from the loads coming in, which are analysed in the laboratory.

A leachate drainage system is installed leading to water reservoirs partly formed as ponds. The collected water is released in a nearby water stream if not exceeding the given limit values. 128,000 m<sup>3</sup> of leachate is collected daily. A leachate treatment plant is planned. Landfill gas is collected and energy is produced within two energy generators producing 20 million kW. The technology for reusing the gas will be replaced by newer technology in near future.<sup>5</sup>

The technical standard of the site seemed to correspond to EU requirements. The following possible deficits of the landfill could be identified:

- A pre-treatment of the mixed municipal waste disposed of at the landfill is not carried out, but is planned for the year 2009.
- Waste tyres are stored in large quantities on the premises of the landfill.
- A daily cover is not in place. Thus, the protection of the landfill against flies, birds etc. seems to be low and the vicinity of the landfill is not protected against odour.

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

The following topics have been identified as major points of interest by the workshop participants

- (1) The amount of mixed MSW landfilled is with 86% still high. Therefore the biodegradable fraction landfilled is too high as well.
- (2) Separate collection system is installed. Some municipalities have established central collection points. However the "polluter pays principles" is not implemented sufficiently and the financial incentives for the inhabitants to use this collection points are low. The saving would account for up to around 12 €/household/month only.
- (3) Separate collection of waste is not very lucrative for a landfill operator, because of the low income gained from the waste tariff system. A moderate landfill tax is not stimulating increased separation.
- (4) The illegal dumping of waste is still a problem in Slovenia. In past, a common practice was especially the illegal dumping of waste into the karst caves.
- (5) Even if some numbers exist of illegal dumpsites, a comprehensive study about the

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<sup>5</sup> Guided tour at Barje landfill

problem has not been carried out.

- (6) Several authorities are involved in detection and deletion of the dump sites and responsibilities are not always clear (inspectorate, police, municipalities, MoE). The success rate of detecting the originator of the waste is very low.
- (7) The existing sanction system is not often applied yet and experiences with the efficiency of the sanction system are rare. Sanctions range from 4,000 to 40,000 €.
- (8) The “treatment prior landfill” principle is not implemented sufficiently and mixed MSW is mostly landfilled without further treatment at the landfills.
- (9) Waste is stored on a long time range, e.g. in the municipality of Maribor, as no sufficient landfill capacity is available.
- (10) The system of renewable permits and shared responsibility between the Environmental Agency and the regional authorities causes conflicts and a uncertainty on the side of the operators preventing them from investing in their landfills, as the Environmental Agency has to wait for issuing the permits until the the municipalities has agreed upon which landfill they want to operate in each region.
- (11) There exist problems with the classification of certain waste streams as waste or as secondary raw material (e.g. construction and demolition waste). Even if the definition within EU legislation should not lead to misunderstandings, there exist waste streams which can be seen as secondary raw material as long as they undergo a certain treatment.

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

- (1) International, European and national law is basis for deciding whether to give a permit to a landfill operator or not. The BREF documents defining on the Best Available Techniques (BAT) in particular are considered when making the decision.
- (2) The Ministry of Environment and Spatial Planning is cooperating with NGOs whenever possible. NGOs have not really been active on state level in the field of landfills and waste management. On regional level there exist occasional actions, e.g. resisting towards new landfills.
- (3) The Environmental Inspectorate is in charge of enforcement the legislation. Controls of the landfills are made at least once a year.
- (4) The Ministry of Environment and Spatial Planning and the Chamber of Commerce carry out training courses concerning the legal and technical requirements addressed to the landfill operator. Qualification standards for landfill operators and the working staff do exist and the operators as well as the municipalities have to ensure these standards.

- (5) According to Slovenian legislation sampling and testing as required by the Acceptance Criteria Decisions by the landfill operators is not allowed. Sampling and testing has to be carried out by the authorised laboratories only (exception is gas monitoring, if allowed by the Ministry in the permit).
- (6) Data from landfill operators are still gathered in paper form due to the fact of data protection and cannot be used for other purposes (e.g. estimation of landfill tax).
- (7) Information material, visits and open days are organised by some landfills for informing the public. However awareness raising amongst the public should more focus on the avoidance of waste and separate collection.

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

- (1) A revised tariff system covering all costs of collection, transport, separation and recovery / disposal should be introduced to the citizen.
- (2) The landfill tax has to be increased. It is assumed that the raised landfill tax (by 1.1.2007) will stimulate more separation and recovery.
- (3) To conduct controls at operating landfills more frequently and effective, more staff would be needed at the side of the Environmental Inspectorate.
- (4) The systems of fines and penalties for illegal dumping and the non-fulfilment of set requirements at landfills have to be revised and implemented strictly.
- (5) Quick decision would be needed for the question which landfills will be operated after 2009. A moderation of this decision process at national level would be supportive.
- (6) An electronically data gathering of permitting and landfill data would be more effective and less time consuming.

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

- (1) The European Commission should support further cooperation with the IMPEL Network, which conducts special projects for a better implementation.
- (2) A better and more uniform definition of biodegradable waste is needed. A calculation basis should be defined uniformly for all MS and introduced into the EUROSTAT system.
- (1) A procedure for the classification of re-categorising certain waste-streams such as C&D waste, used oils and biowaste as secondary products should be defined and implemented by the EC. For biowaste such a procedure is under discussion already in the revision process of Directive 12/2006/EC and would be needed for other waste streams as well.

## 1.2 Participation List Slovenia / Ljubljana // 31.01.-01.02.2007

	Name	Institution EN	Institution SI	Address	Phone	E-Mail
<b>European Commission</b>						
1	Helmut MAURER	European Commission / DG Environment		European Commission - Avenue de Beaulieu 5, 1049 Brussels	+32 2 2964 599	helmut.maurer@ec.europa.eu
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2	Radovan TAVZES	Environment Directorate, Ministry for Environment and Spatial Planning	Ministrstvo za okolje in prostor Direktorat za okolje	Dunajska cesta 48, 1000 Ljubljana	+386 1 4787 310	radovan.tavzes@gov.si
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<b>Institutions / Organisations</b>						
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14	Viktor GRILC	Nationale Institute of Chemistry	Kemijske Institut Slovenija	Hajdrikova 19, 1000 Ljubljana	+386 1 4760 258	viktor.grilc@ki.si
15	Matevž GOBEL	Institute for Public Health	Zovod za Zdravstveno Varstvo Celje	Ipavečava 18, 3000 Celje	+368 34 2511 200	matevz-gobec@zzv-ce.si
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<b>Municipalities</b>						
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21	Alenka KORPAR	Joint Municipal Administration of Municipalities Ptuj	Občina Ptuj	2250 Ptuj	+386 2 748 29 90	alenka.korpar@ptuj.si
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<b>Enterprises</b>						
24	Matej KOVAČIČ	Landfill Operator	Javno komunalno podjetje Prodnik d.o.o.	Savska cesta 34, SI 1230 Domžale	+386 1 7295 438	matej.kovacic@jkg-prodnik.si
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<b>Authorised Laboratories for Sampling</b>						
28	Andreja PURKAT	Sampling Laboratory	Acroni, d.o.o.	Cesta Borisa Kidriča 44, 4270 Jesenice	+386 4 584 1010	andreja.purkat@acroni.si
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### 1.3 Agenda Slovenia / Ljubljana // 31.01.-01.02.2007

Wednesday, 31. January 2007

9:00	Registration, Come together, including Coffee Chairperson: Lucija Jukić Soršak, Ministry of Environment and Spatial Planning, Slovenia / Nicole Seyring, BiPRO GmbH, Munich, Germany
10:00	Radovan Tavzes (Director General of Environment Directorate, Ministry of Environment and Spatial Planning) <i>Opening of the Workshop</i>
10:05	Nicole Seyring (BiPRO GmbH, Munich) <i>Welcoming of participants and introduction of the EU Project</i>
I. RELEVANT legislation AND STATUS QUO	
10:15	Nicole Seyring (BiPRO GmbH, Munich) <i>Overview on relevant European legislation – The Landfill Directive</i>
10:50	Helmut Maurer (EU Commission, DG Environment, Brussels) <i>Status and problems with the implementation of European legislation for landfills - An European perspective</i>
11:25	Radovan Tavzes (Director General of Environmental Directorate, Ministry of Environment and Spatial planning) <i>Transposition of EU Landfill legislation into the legislation of the Republic of Slovenia</i>
12:00	Irena Koželj (Environmental Agency, Waste Management Section) <i>Permitting procedures for landfills</i>
12:20	Marija Ulrich-Supovec (Environmental Agency, Waste Management Section) <i>Landfill tax in Slovenia in the period 2001-2005</i>
12:45	Tatjana Bernik (Inspectorate for the Environment and Spatial Planning) <i>Landfill inspection and enforcement in 2006</i>
13:10	Vesna Smaka Kincl (Municipality of Maribor, Agency for the Protection of the Environment) <i>Obligations of slovenian and municipal regulations regarding waste management with actual cases of the city of Maribor</i>
Chairperson: Radovan Tavzes, Ministry of Environment and Spatial Planning, Slovenia / Nicole Seyring, BiPRO GmbH, Munich, Germany	
II. SPECIFIC ASPECTS OF IMPLEMENTATION	
14:30	Elisabeth Müller (BiPRO GmbH, Munich) <i>Legal requirements for acceptance and control during operation of landfills</i>
15:00	Janko Žerjav (Environment Directorate, Ministry of Environment and Spatial Planning) <i>The revision of IPPC Directive and inclusion of recovery and landfill of waste</i>
15:35	Mojca Žitnik (Statistical office of the Republic of Slovenia) (enquired) <i>State of the art of current landfill situation - Statistical data</i>
16:00	Questions and Discussions
16:15	COFFEE BREAK
16:30	Mitja Praznik (SNAGA d.o.o Landfill ) <i>Non-hazardous waste landfill, Barje, Ljubljana</i>
16:55	Igor Madon (Komunalno stanovanjska družba Ajdovščina d.o.o.) <i>Potential deviations implementing the European Landfill Directive and derived national regulations into the practice - A perspective of landfill operator</i>
17:20	Questions and Discussion
18:00	END OF THE FIRST WORKSHOP DAY

Thursday, 1<sup>st</sup> February 2007

III. EXCURSION	
9:30	Excursion to the BARJE landfill for non-hazardous waste in Ljubljana Chairperson: Nicole Seyring, BiPRO GmbH, Munich/ Helmut Maurer, European Commission, Brussels
IV. SPECIFIC LANDFILLING PROBLEMS AND CONCLUSIONS OF THE WORKSHOP	
12:30	Questions, open discussion, final conclusions
14:00	END OF THE WORKSHOP