

MINISTRY OF ENVIRONMENT AND WATER

REPUBLIC OF BULGARIA

**PLAN FOR IMPLEMENTATION OF DIRECTIVE
1999/31/EC ON LANDFILL OF WASTE**

Sofia, March 2003

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ABBREVIATIONS

MOEW	– Ministry of Environment and Water
RIEW	– Regional Inspectorate for Environment and Water
EEA	– Executive Environmental Agency
SEEMA	– State Enterprise for Environmental Management Activities
MRDPW	– Ministry of Regional Development and Public Works
MAF	– Ministry of Agriculture and Forests
SASM	– State Agency of Metrology and Technical Supervision
NSI	– National Statistical Institute
MF	– Ministry of Finance
BGN	– Bulgarian levs

INTRODUCTION

Bulgaria is one of the Central and East Europe countries applying for EU membership. In that respect one of the main and priority tasks of Bulgarian government is to achieve compliance with the different EU Directives as soon as possible. In the beginning of 2001 Bulgaria handed in official position for pre-accession negotiation including on Chapter 22 “Environment”. This position covers the legislation adopted by EU and entered in force up to 31.12.1999.

In 2002 Bulgaria handed in negotiation positions for EU legislation adopted in 2002 and 2001.

The working hypothesis of the Bulgarian government is that Bulgaria will become a full member of EU on 01.01.2007.

The present plan for the implementation of Directive 1999/31/EC on landfill of waste determines the requirements, aims and the necessary administrative, legislative and investment measures in order to ensure fulfillment of the requirements of EU in the field of landfill of waste.

The plan pays special attention on the construction of regional landfill facilities for municipal waste and closure of the existing dumpsites and past waste damages in the country. In addition the document determines the main priorities in the work of institutions and local authorities in regard to reduction of the quantities of the biodegradable waste going to landfills.

1. REQUIREMENTS OF DIRECTIVE 1999/31/EC

The Directive 1999/31/EC introduces the necessary technical and operational requirements and related measures, procedures and rules that have for an object prevention and reduction of the harmful impacts to the environment and related risks to the human health resulting from landfill of waste.

The requirements of the directive are applicable to “landfill of waste”, defined as facilities for waste disposal by deposit of waste onto or into land including:

- disposal sites where a producer of waste is carrying out its own waste disposal at the place of production and
- a permanent site (i.e. more than one year) which is used for temporary storage of waste, but excluding:
- facilities where waste is unloaded in order to permit its preparation for further transport for recovery, treatment or disposal elsewhere, and
- storage of waste prior to recovery or treatment for a period less than three years as a general rule, or
- storage of waste prior to disposal for a period less than one year;

Without prejudice to existing Community legislation, the following are excluded from the scope of the Directive:

- the spreading of sludges, including sewage sludges, and sludges resulting from dredging operations, and similar matter on the soil for the purposes of fertilization or improvement;

- the use of inert waste which is suitable, in redevelopment/restoration and filling-in work, or for construction purposes, in landfills;
- the deposit of non-hazardous dredging sludges alongside small waterways from where they have been dredged out and of non-hazardous sludges in surface water including the bed and its sub soil;
- the deposit of unpolluted soil or of non-hazardous inert waste resulting from prospecting and extraction, treatment, and storage of mineral resources as well as from the operation of quarries.

The directive classifies the landfills of waste in three classes respectively:

- landfills for hazardous waste;
- landfills for non-hazardous waste;
- landfills for inert waste.

The document determines the types of waste that could be accepted in different classes of landfills and the acceptance procedures that should be applied.

Each member state is required to set up and implement strategy for reduction of biodegradable waste going to landfills and as a result fixed quantitative targets to be achieved. The national strategies should include measures for attaining of the targets set up by the directive moreover special attention should be paid to recycling, composting and other methods of material and energy recovery.

Member states are obliged to ensure landfills of waste to be located, constructed and operated in accordance with the standards applicable

A prohibition for landfilling of some types of waste is laid down (liquid, infectious, flammable and so on) and an obligation for waste acceptance in accordance with fixed criteria and procedures including checks and documenting. The directive does not allow delusion or mixing of waste with aim waste acceptance criteria to be fulfilled.

- The directive determines the requirements that should apply for application for landfill permit and for the permitting of the landfill operation as well as observation of precise conditions.

Member states are obliged to secure the charge for acceptance of the waste, determined by the landfill operators to cover all costs for construction and operation of the landfill, expenditures related to the financial guarantee and the costs for closure and after-care for period not less than 30 years.

The operators of existing landfills should prepare and present to the competent authorities, for their approval, a conditioning plan for bringing the site into compliance with the requirements of the directive. Member states have to take the necessary measures for prompt closure of the existing landfills that were not obtained such approval. Up to 17.07.2009 all landfills currently in operation should fulfill the requirements of the directive.

2. TRANSITION PERIODS REQUESTED ACCORDING TO NEGOTIATION POSITION OF REPUBLIC OF BULGARIA

By the Common Position for negotiation on Chapter 22 “Environment” Republic of Bulgaria has requested the following transition periods for the implementation of Directive 1999/31/EC:

1. Transition period of 2 years for the implementation of the requirements in Article 5 (2) (a) and (b) as follows:

- the reduction of the biodegradable municipal waste going to landfills to 75% to be implemented within 01.01.2012
- the reduction of biodegradable waste going to landfills to 50% of the fixed quantities to be implemented within 01.01.2015

The national strategy for the implementation of the reduction of biodegradable waste going to landfills will be adopted within 2003 at the latest. After its adoption Republic of Bulgaria will reassess the necessity of the above mentioned transitional period.

2. The Republic of Bulgaria considers that the definition for “liquid waste” according to Article 2, point *q* of the Directive does not cover the mixtures of solid waste with water intended for deposition in tailing ponds, ash ponds, slug ponds and similar facilities. In case that the consideration made in the Existing legislation part on the definition of “liquid waste” is not confirmed by the Commission an additional transitional period of eight years – till 1.01.2015 will be required as follows:

- The ban on the liquid waste landfilling not to be applied for the specified period to all existing sites such as tailing ponds, slug ponds, ash ponds and similar facilities. A list of facilities and types of waste landfilled will be submitted to the Commission.

The need of such transitional period is determined by the significant investments required for changing the applied technologies at present in mining, energy, metallurgy and other industrial sectors. The quantities of waste disposed in such manner exceed 10 million tons annually.

3. The Republic of Bulgaria reserves the right to request additional transitional periods for specific landfill sites after examination of the criteria for inert waste classification and the criteria which have to be fulfilled for certain hazardous waste to be accepted in landfills for non-hazardous waste.

3. DESCRIPTION OF THE CURRENT SITUATION

3.1. LEGISLATION TRANSPOSING THE REQUIREMENTS OF THE DIRECTIVE 1999/31/EC

By the adoption of *Reduction of the harmful impact of waste upon the environment Act* (Promulgated in State Gazette No 86 from 30.09.1997, modified State Gazette No 56 from 22.06.1999, amended and modified State Gazette No 27 from 31.03.2000, amended State Gazette No 28 from 4.04.2000) in 1997 conditions for legal waste management regulation were established and substantial progress in the process of harmonization of the national legislation with EU one was achieved. For the implementation of the requirements of the Act and the National waste management program during the period 1998-2002 a series of secondary legislative regulations in

the field of waste classification, requirements on the sites and facilities for treatment and disposal of waste, requirements on specific waste streams have been adopted.

The Act defines the environmentally sound waste management as a set of rights, obligations, decisions, activities and operations related to waste generation and treatment, based on various information, as well as the different control forms. The Act:

- introduces the general definitions on waste, waste producer, and the operations of recovery and disposal are defined also;
- differentiates requirements on various categories of waste by type and origin. For this purpose the following types of waste are determined – municipal waste, industrial, construction and hazardous waste;
- determines the cases when permit for waste activities is required, the competent authorities for permitting, as well as the terms, procedures and conditions for application and permission
- regulates the general conditions on treatment, transportation, recovery and disposal of waste;
- determines the general requirements for planning of waste management activities in the country including the requirements for the objectives, scope and procedures for adoption of the National waste management program, municipal programs and the programs prepared by persons whose activities is related to production, collection, storage and disposal of waste;
- sets the requirements for the providing of information by the producers and holders of waste;
- stipulates possibilities for annual allocation of funds by proposal of the Minister of Regional Development and Public Works and the Minister of Environment and Water, through the State Budget destined for construction of treatment facilities for municipal solid waste and wide spread hazardous waste, as well as for cleaning up of areas polluted with waste in the past;
- delegates control rights of the competent authorities concerning waste related activities, treatment facilities and installations.

Regulation No 12 on the requirements that must be met for location of waste treatment facilities sites (Promulgated in State Gazette, issue 152/1998), determines the conditions and procedures for designation of sites, rules and construction norms, engineering, geological, hydro-geological and hydrological conditions to be met by the sites.

The regulations covers the treatment sites for municipal, construction, industrial and hazardous waste, located in proximity to the waste source or individual sites where the following listed activities are executed:

- Waste collection;
- Temporary storage, packing or other operations before and after the basic waste disposal operations;

- Waste disposal, incl. landfilling;
- Recycling or other forms of recovery.
- The regulations demands that the operations performed on waste treatment site shall ensure treatment or disposal in such a manner as not to harm the human health and not to involve methods and industrial processes harmful to the environment.

By **Regulation No 13 on the conditions and requirements for commissioning and operation of waste landfills** (¹Promulgated in State Gazette issue 152/1998) the requirements on construction, operation and control over the waste landfills are laid down. The regulation sets out three classes of landfills – for hazardous, non-hazardous and inert waste

The acceptance of waste in the different classes of landfills must meet the following requirements:

- at hazardous waste landfills must be landfilled only hazardous waste;
- at non-hazardous waste landfills could be landfilled municipal waste and industrial non-hazardous waste;
- at inert waste landfills must be landfilled only inert waste.

The landfilling of the following groups of waste is prohibited:

- liquid waste;
- waste that emits nasty odors;
- incompatible waste;
- waste, which under the landfill conditions has explosive, oxidizing, corrosive, flammable and combustible properties;
- hospital and other clinical waste generated from healthcare and veterinary facilities, being classified as infectious;
- hazardous waste, which does not meet the criteria for the acceptance in the respective landfill class.
- By the Regulation the following limitations and provisions are regulated:
 - control on the landfilling operations, incl. internal company control executed by the landfill operator;
 - design solutions regarding the landfill body;
 - landfill monitoring systems;
 - after-care control;
 - requirements on the qualification and training of staff engaged in landfill management.

The regulation states that the landfill operator is the responsible for the waste disposal and requires that the landfilling operations must be executed according to the waste management program

adopted by the operator. The Regulation obliges operators of landfills that at the moment of entering into force of the Regulation are being operated to prepare and present to the competent authorities for approval Conditioning plans for the landfill obligatory accompanied with landfill reconstruction project.

By *Regulating 11 on the conditions and requirements towards construction and operation of domestic waste disposal facilities and operations* (Promulgated in State Gazette, issue 152/1998) the requirements on the installations for incineration, composting, recycling and other methods for disposal and recovery of municipal solid waste are laid down. The regulation:

- transposes in the national legislation the existing EC provisions towards domestic waste incineration installations, incl. allowable emissions levels, technical requirements, obligatory measurements, access to information, treatment of incineration process residues;
- prohibits incineration of municipal waste as basic or additional fuel in industrial processes (cement production, energy generation, etc.).
- determines the provisions to guarantee healthy and safe labor conditions, as well as safe disposal facility operation.

The ***Regulation on requirement towards treatment and transportation of industrial and hazardous waste*** (Adopted with Decree of the Council of Ministers 53/ dated 19.03.1999. Promulgated in State Gazette issue 29/1999) has the major purpose to ensure the necessary measures to prevent, or when this is impossible to limit to the highest possible degree, the expected negative environmental impacts caused by treatment and transportation of industrial and hazardous waste. The regulation fixes the requirements towards the facilities and installation for temporary waste storage, incineration and chemical-physical treatment of industrial and hazardous waste, incl. conditions and procedures for waste collection and acceptance in emergency situations. The regulation prohibits:

- placing of hazardous waste in non-cleaned containers, into which other non-compatible types of waste have been stored;
- mixing of hazardous with non-hazardous waste and/or other substances, including dilution of hazardous waste;
- mixing of various types of hazardous waste;
- mixing of recoverable with non-recoverable types of waste.

The responsibilities and obligations of the waste holders and carriers are regulated also, together with the requirements towards the vehicles transporting industrial and hazardous waste.

Regulation No.10 on the order for filing in of waste related reporting and waste management activities information (Promulgated in State Gazette, issue 151/1998) has the major purpose to obtain complete and reliable information on waste management activities through fixing the orders for reporting and documentation. The Regulation obliges the landfill operators to keep reporting books certified by RIEW containing information on the quantities, type and origin of the waste accepted in the landfill as well as to present annual reports completed in accordance with fixed format.

In conclusion it could be summarized that the national legislation introduces all technical requirements concerning location, construction and closure of the landfills. The gaps in the legislation are related with the lack of relevant provisions and requirements about:

- pre-treatment of waste;
- reduction of the quantities biodegradable waste going to landfills and prohibition for landfilling of waste tyres;
- absence of or non-compliance with the standards for sampling and analysis of surface water, groundwater and leachate recommended by the directive.

It is envisaged that the requirements of the Directive will be completely transposed into Bulgarian legislation by the adoption of the new *Waste Management Act* (WMA), which is expected during the first half of this year. On the basis of WMA a new *Regulation on the conditions and requirements for construction and operation of landfill of waste* is to be adopted till the end of 2003, which will repeal Regulation No 13/1998 currently in force.

3.2. COMPETENT AUTHORITIES AND RESPONSIBILITIES

The Ministry of Environment and Water (MEW) is the competent authority responsible for the development and implementation of the national waste management policy, including development and enforcement of the legislation, strategies, programs, international projects, as well as regulation of the activities in the public and private sectors. Executive Environmental Agency (EEA) and network of 15 Regional Inspectorates of Environment and Water (RIEW) that are specialized control bodies of the Ministry perform some of these activities.

The direct competencies of MEW related to the implementation of the requirements of Directive 1999/31/EC on landfill of waste are:

- development of the National Waste Management Program;
- publishes guidelines for requirements for development, scope and contents of the municipal and company's waste management programs;
- preparation of annual report on the environmental conditions including waste management with purpose of public information;
- provision of necessary funding for the realization of waste management projects by means of State Enterprise for environmental management activities (till 2003 the National Environmental Protection Fund) allots grants and credits;
- organization, preparation and implementation of environmental projects funded by the European Union and other international financial institutions.

The Executive Environment Agency (EEA) of the Ministry performs monitoring and collection of data on water, air, soils, radiation and waste from the whole territory of the country, supports the ministry's functions by supplying data and analyses, performs ecological monitoring of the waste producers and disposal facilities, laboratory control of waste and maintenance of waste related database. The Agency

also establishes and operates the National Automated Environmental Monitoring System (NAEMS)¹. The waste reporting is the ground for establishing the “Waste” information system as an independent sub-system of NAEMS. Through the NAEMS sites generating domestic, construction, industrial and hazardous wastes are monitored. In future the system shall include the registration and risk assessment of past waste damages. It is envisaged the data collection system to be concentrated on gradual identification, coding and registering of the landfills and enterprises which pose significant real or potential environmental risk.

The Regional Inspectorates of Environment and Water (RIEW):

- issue permits for collection, storage and transportation of industrial and hazardous waste in the cases when the activities are executed within their territory and also issue permits for construction and operation of installations including landfills for disposal of municipal, industrial non-hazardous wastes and hazardous waste within their territory;
- control the observation of the requirements for waste treatment and the implementation of conditions laid down in the permits and control of enforcement of waste management legislation;
- approve the municipal and company’s waste management programs and supervise the implementation of the programs;
- control waste reports and information provided by waste producers, recyclers, disposers and municipal administrations;
- perform periodic inspections of the facilities and installations for waste disposal.

Other institutions concerned in waste management:

The Ministry of Healthcare participates in the development of the waste management legislation and also:

- determines the requirements for disposal of hazardous hospital waste, expired pharmaceutical goods and narcotic substances;
- takes part in determination of procedures, standards and methodologies for hazardous waste classification;
- participates in the development of the national laboratory system on waste;
- gives prescriptions on the permits issued by MEW on hazardous waste management activities.

The Hygienic-Epidemiological Inspections (HEI) that are the specialized local control bodies of the MH perform sanitary control on the hazardous waste disposal activities and give prescriptions on the permits issued by the RIEW.

The Ministry of Agriculture and Forests issues permits on the use of waste in the agriculture, including sewage sludge produced by wastewater treatment plants, compost etc.

The Ministry of Finance controls the spending of state budget funds designated for construction of waste management facilities and also participates in approval and coordination of projects related to

¹ National Automated Environmental Monitoring System (NAEMS)

past waste damages takes part in approval and coordination of projects funded by EU and the international financial institutions.

The Ministry of Regional Development and Public Works participates in development of technical requirements for waste treatment and disposal facilities and in planning of the regional waste disposal infrastructure.

The National Statistical Institute collects and processes information about municipal, construction and industrial waste at national level sorted by waste types and quantities, industrial branches, regions etc.

The State Agency for Metrology and Technical Supervision organizes and coordinates the development of national standards in the waste management field.

The municipal administrations and mayors of the municipalities have a key role in planning and organization of municipal and construction waste management activities on the basis of authorities imposed to them by the national legislation.

The municipal councils adopts:

- local regulations on the order and conditions for throwing away, collection, incl. separate collection, transportation, transferring, final disposal and recovery of municipal and construction wastes as well as the local taxes and fees on collection, transportation and disposal of wastes;
- programs on waste management activities for the territory of the respective municipalities.

The mayors of the municipalities or persons authorised by them control:

- activities related to production, collection, storage, transportation and disposal of municipal and construction waste;
- activities related to industrial and hazardous waste landfilling and the implementation of the programs on hazardous and industrial waste management;
- facilities and installations for storage and disposal of municipal and construction waste and also the facilities for landfilling of industrial and hazardous waste;
- observation of other requirements imposed by the municipal regulations.

3.3. QUANTITIES OF THE PRODUCED WASTE AND PRESENT DISPOSAL PRACTICES

The analysis of the current situation in the plan is based on the information on the production, treatment, disposal and recovery of waste for the period 1998-2001. For the preparation of the assessment of municipal and industrial waste, data from the National Statistics Institute (NSI), published in the official year-books were used whereas the information on the hazardous waste is grounded on the data from Environmental Executive Agency (EEA) included in the annual reports on the status of the environment.

3.3.1. Municipal waste

During the period 1998-2001 the quantities of municipal waste put on municipal landfills range between 498 and 518 kilograms per year per capita. (Table 1).

Table 1. Reported quantities of municipal waste and quantitative norm of municipal waste per year and capita

Year	Quantities municipal waste collected <i>tones</i>	Population served by waste collector <i>inhabitants</i>	Total population <i>inhabitants</i>	Quantitative norm <i>kg./cap.year</i>
1998	3196836	6414948	8230371	498
1999	3213349	6353133	8190876	506
2000	3318022	6402154	8149468	518
2001	3210846	6360864	7928901	505

Source: NSI

The assessments on the quantity and the composition of the waste in some municipalities in the country conducted during the previous few years show less waste quantities comparing to the reported quantities. The reasons for the higher municipal waste quantities reported by the municipalities could be found in the practice on one hand the collected waste to be reported on the basis of the transport documentation and on the other – the lack of weighbridges for measurement of waste going to landfills.

In the end of 2001 80 % of the population was served by waste collection schemes thus above 99% of urban population was served but in rural areas the population served by waste collection schemes was less above 33%. There are significant differences between different regions by this index but the situation is most favorable in Sofia (capital) where 100% of the population is served, Gabrovo – 93,2% and Kyustendil – 89,5%. The slightest extend of population served by waste collectors is in the region of Silistra – 41,8%, Targoviste – 51,3% and Razgrad 51,5%.

Information on the quantities produced and landfilled municipal waste, the population covered by waste collection schemes and the waste composition for the period 1995-2001, are shown in Table 2. The data indicate that in 1995 the total quantity of the biodegradable municipal waste (according to the data of NSI) amounts to 50% of the total quantity of produced waste, which comes to 2905 thousand tones. Republic of Bulgaria by means of NSI have provided EUROSTAT with the above mentioned data for 1995 in order to be validated and used as a basis for the determination of targets for reduction of the quantities biodegradable waste going to landfills as required by the Directive 1999/31/EC.

Landfilling is the base method for municipal waste disposal in the country. Pre-treatment of waste before landfilling is not applied basically because of economic reasons and because of the absence of legal requirements. At 31.12.2001 according to the data of NSI the number of landfills serving the waste collection schemes is 663 and 3198 thousand tones municipal waste have been landfilled thereon. Information on the location of landfills by regions and waste quantities landfilled in 2001 are shown in Appendix 1.

Table 2. Information on the municipal waste quantities, produced and put on landfills and the composition of waste

	Unit	1995	1996	1997	1998	1999	2000	2001
I. Total quantity of waste collected	1000 t.	4 495,00	4 030,68	3 628,07	3 196,84	3 213,35	3 318,02	3 210,85
Waste quantities put on landfills	1000 t.	4 467,00	3 995,96	3 613,97	3 167,12	3 197,27	3 271,12	3 198,31
II. Population served by waste collectors	%	77,00	78,00	75,00	77,90	77,60	78,56	80,21
III. Quantities of municipal waste put on landfills not coming from waste collectors	1000 t.	1342,66	1133,97	1180,72	906,44	928,00	905,54	792,02
IV. Composition of municipal waste:								
- paper, cardboard and paper product wastes	%	12,00	11,00	11,00	11,00	8,52	8,68	9,95
- Textiles	%	3,00	3,00	4,00	4,00	3,13	3,25	3,77
- Plastics	%	7,00	6,00	7,00	7,00	8,07	8,81	9,45
- Glass	%	6,00	6,00	6,00	6,00	5,26	5,25	5,08
- Metals	%	4,00	4,00	3,00	4,00	2,45	2,25	2,34
- Organic materials	%	38,00	35,00	38,00	41,00	41,57	39,88	38,73
incl. food and garden waste	%	38,00	35,00	38,00	41,00	41,57	39,88	38,73
- Other	%	30,00	35,00	31,00	27,00	31,00	31,88	30,68

Source: NSI

Fifty-eight (58) of the above mentioned municipal landfills serve the settlements with population above 20 000 which is approximately 70% of the population in the country. In 2001 within the framework of the project “National program for reduction of the risk from landfills and past damages by waste” [1] these landfills have been inventoried and assessed (Appendix 2). The results of the inventory allow the assessed landfills to be classified by risks to the environment and human health in the following four groups:

- I – st group – very high-risk – 12 landfills;
- II – d group – high-risk – 17 landfills;
- III – th group – medium risk – 28 landfills;
- IV – th group – minimal risk – 2 landfills

The results of the project served as a basis for establishment of “Register of landfills and past damages by waste” in the framework of the National system for environmental monitoring operated by EEA. Till the end of 2001 information on 275 landfills has been introduced in the register.

According to the data of RIEW and municipal administrations additionally 5135 dumpsites near the small settlements and areas polluted by municipal waste have been identified.

By the implementation of the National waste management program during the period 1999-2002 12 landfills that fulfill the requirements of Directive 1999/31/EC have been constructed, reconstructed and put into operation. At the same time with the financial support by EU (ISPA) the construction

of 6 new regional landfills for municipal waste is starting. With financing by the state budget in 2003 continues the construction of 10 others regional landfills (Appendix 3).

3.3.2. Industrial non-hazardous waste

For the period 1998-2001 83- res.96% of the total produced quantity of non-hazardous waste has been disposed by landfilling and particularly in 2001 91% of non-hazardous waste quantity (7451 thousand tones) has been landfilled (Table 3).

Table 3. Quantities of produced and landfilled waste for the period 1998-2001

Year	Quantities industrial non-hazardous waste	
	Total produced [thousand tones]	Landfilled [thousand tones]
1998	8830	8501
1999	8830	7120
2000	8118	7558
2001	8183	7451

Source: NSI

At the present moment 84 landfills for industrial non-hazardous waste (Appendix 4) are identified including 74 in operation and 10 closed. The number of the operating landfills for inert waste is 15. The total number of the landfills does not include the facilities for disposal of waste resulting from the opening, extraction and treatment of mineral resources and sites for refilling of the work-off areas in the overcast mines for lignite coals with ashes resulting from the combustion of coals (code EWC 10 01 01), performed according to the approved plans for exploitation of the pits are excluded from the indicated list.

In the general list of landfills there are 29 facilities with hydro-transportation of waste in energetic, chemical industry, construction industry, metallurgy and food industry (Appendix 4, Table 4-3). Main part of the facilities falling within this list dispose ashes from the combustion of coals (EWC 10 01 01), sludges from washing and cleaning (EWC 02 01 01), soil from cleaning and washing beet (02 04 01) and off specification calcium carbonate (EWC 02 04 02).

Facilities where the waste is unloaded in order to permit its preparation for further transport for recovery, treatment or disposal and the facilities for storage of waste prior disposal for period less than one year are not included in the above-mentioned number.

The main part of the landfills have been constructed in 70s and 80s years, according to the legislation in force in that period that regulated the requirements on the preparation of landfill foundation and the lay of isolating clay layer, the stability of the landfill body etc.

Within the observed period the biggest part take the waste resulting from thermal processes, followed by waste from non-organic chemical processes, the waste from agriculture and the food industry.

The most waste quantities are produced in the regions of Stara Zagora, Sofia and Varna. This is basically as a result of the existence of large waste producers in these regions as the termo-electric

power stations in the complex TEPP “Maritsa Iztok”, also “Kremikovtsi”-Sofia, “Umicor”-Pirdop, “Eurometal”-Pernik, “Agropolichim”-Devnya, “Solvey Sody”-Devnya.

For the period 1998-2001 83-96% of the total produced quantity of non-hazardous waste has been disposed by landfilling and particularly in 2001 91% of non-hazardous waste quantity has been landfilled.

3.3.3. Hazardous waste

Information on the quantities of produced and landfilled hazardous waste for the period 1998-2001 is presented in Table 4. The information shows that the total amount of the produced hazardous waste during the last two years of the observed period become stable on levels of 755-757 thousand tones. In 2001 the biggest part take the hazardous waste produced by the thermal processes /53%/, followed by the waste resulting from oil production /21%/ and from waste water treatment plants /8%/. For 2000 the parts are 50%, 21% and 10% respectively.

Landfilling is the main method for disposal of hazardous waste in the country as in 2001 it comes up to 68% of the total amount of waste production. In comparison to the preceding year increase of landfilled waste by 5% is accounted. Approximately 94% of the landfilled hazardous waste are on specialized landfill sites or other type of storage facilities operated by the enterprises.

Table 4. Quantities of produced and landfilled hazardous waste

	Year				
	Measure unit	1998	1999	2000	2001
Total quantity of produced waste	<i>1000 t.</i>	548,00	853,00	758,00	756,00
Total quantity of landfilled waste	<i>1000 t.</i>	237,00	517,00	478,00	518,00

At the moment 18 landfills for hazardous waste are in operation (Appendix №5), but no one of these landfills meets the requirements of the Directive and can not be bring into compliance with these requirements in an affordable cost.

All existing landfills are operated by the enterprises that produce the waste and there are no landfill sites that take hazardous waste with commercial purpose.

The number of the closed landfills for hazardous waste is 13.

3.3.4. Mining waste

For the liquidation of the consequences of the ore extraction and treatment, since 1992 the state ensures the necessary measures for rehabilitation of mines and treatment facilities (including tailings ponds formed as a result of the ore extraction and treatment) on the basis of affirmed working designs approved by the competent authorities and the control bodies. The investment measures for the liquidation of the consequences of the ore extraction and treatment include:

- Conservation and/or technical liquidation;
- Technical and biological land restoration;
- Treatment of mining and drainage waste waters;
- Monitoring.

The facilities for the disposal of waste resulting from the prospecting, extraction, treatment and storage of mineral resources are listed in Appendix 6. The total number of 33 facilities does not include the sites for the disposal of unpolluted soils and non-hazardous inert waste, excluded from the scope of the Directive (Art. 3 (2)).

Republic of Bulgaria takes into account the ongoing development and expected adoption of the new a Directive in the field waste management of the mining.

The adaptation of the existing facilities for disposal of mining waste to the requirements of the EU legislation will be ensured through development of plans for adaptation prepared by the respective operators till 31.12.2005 and approved by the competent authorities.

3.4. MAIN PROBLEMS AND CONSTRAINS

□ Institutional arrangements and organization

At present all functions related to municipal waste management are assigned to the municipalities. The present practice shows that the mayors of the municipalities do not exercise their authority to control the landfilling of waste on their territory.

The lack of regional waste management renders additional difficulties in regional planning of the municipal waste disposal infrastructure.

□ Administrative capacity and human resources

There is insufficient capacity of the administration engaged with the control of the waste management, collection and processing of information especially on municipal level.

Measures directed at extension of the qualifications and the number of the staff engaged with the organization of municipal waste management activities in municipalities are necessary such as trainings and exchange of experts between the municipalities.

□ Financing and reimbursement of the costs

The funds allotted for waste management are insufficient and the funds spend for collection, treatment and/or disposal of waste in the country are lower than the same in EU states.

□ Reporting and providing of information

The lack of sufficient and reliable information on the quantities, composition and characteristics of the waste, the methods applied for disposal, investments and expenditures for waste management renders much difficulties in making of optimal decisions on national and municipal level. The information should be available for a long period of time so that it can be analyzed and on that basis clear strategy for future measures in the sector to be outlined.

□ Recovery and recycling

The collection of waste destined for recycling is based on a buying of recyclable waste up from the population but not on the base of free of charge delivering. The recycling is organized fully on commercial basis and is restricted solely to this waste that the charge paid by the end disposer covers the costs for collection, processing and transportation.

The low price for the waste landfilling in the country makes the investments in facilities and installations for recycling and recovery using alternative methods such as composting and incineration with energy recovery economically ungrounded

The insufficient information on the composition of waste, the lack of experience in the field of composting and the uncertain market for compost in the country are one of the reasons for the absence of composting as a method for recovery of municipal waste.

□ *Collection and transportation*

The extension of the scope of the existing systems for collection of waste is basic problem for the municipal administrations its solution will be related with significant expenditures. The transition from municipal to regional facilities for municipal waste disposal will increase significantly the transportation costs and will require additional investments in new equipment for refuse collection and transportation.

□ *Pre-treatment of waste*

The implementation of the requirements for pre-treatment of waste prior landfilling and of the requirements for reduction of biodegradable waste going to landfills will be related to significant investments in installations for waste treatment not used at the present moment.

□ *Landfills for waste*

Significant part of the existing landfills for waste do not meet the legal requirements and the contemporary technical standards. Considerable investments are needed for bringing the landfills into compliance with the requirements or closure. Continuation of the operation of some of the facilities leads to direct risk to the environment.

The large number of dumpsites and past waste damages requires appropriate measures for closure and land restoration.

The construction of substitute facilities conformable to the quantities and the type of the produced waste will be related to considerable investments in the infrastructure for treatment and disposal. Additional problem is the circumstance that the investments need to be provided in a relatively short period of time.

The bad financial situation and the low outcome volume in some industrial enterprises renders additional difficulties for the construction of the necessary treatment and disposal facilities.

4. METHODOLOGICAL APPROACH

4.1. LANDFILLS AND FACILITIES FOR TREATMENT OF MUNICIPAL WASTE

For the development of the plan on the implementation of Directive 1999/31/EC significant volume of information was collected and processed for the purpose of estimation and prognosis of the production of waste for the period of validity of the plan.

As it was mentioned above as a result of different reason the reported quantities of the produced municipal waste are considerably overrated. This necessitates a re-evaluation of the available information and preparation of a reliable assessment of the current waste production rates taking into account the experience gathered in order to serve as a basis for the determination of the objectives and measures in the plan related to the municipal waste.

For the assessment of the quantities of the produced waste and for the preparation of a prognosis for the period till 2015 the following data and prognoses were used:

1. Data from the last census by settlements in Bulgaria made in 2001
2. Long-term prognosis of the NSI on the number of the population till 2015
3. As a basis for the prognosis of the quantitative norm, for the purposes of the plan, the results from the studies [4] made in 2002 in different types of settlements - the town of Ruse (above 100 000 inhabitants), Dryanovo (below 10 000 inhabitants) and the village of Mestitsa in municipality of Pernik (below 1000 inhabitants) are used. Good reason for this is the fact that in each of the studies sufficient number and volume of samples have been estimated for each of the four seasons. The results of the study for the village of Mestitsa (1000 inhabitants) are used for the estimation of waste quantities produced in settlements with below 3000 inhabitants and the results from the study for the town of Dryanovo are the base for estimation of the waste quantities produced in settlements with 3000-25000 inhabitants. For the estimation of waste quantities in the towns with population above 25000 inhabitants the results for the town of Ruse are used and for that purpose two groups are separated depending on the number of inhabitants living in houses, block of flats with or without central heating system. The values are shown in Table 5.

Table 5. Prognosis for quantitative norm and composition of municipal solid waste by groups of settlements

Population		under 3000 inhabitants		3000 to 250000 inhabitants		25000 to 50000 inhabitants		above 50000 inhabitants	
		%	kg./cap.y.	%	kg./cap.y.	%	kg./cap.y.	%	kg./cap.y.
A. Organic									
1.	Food	4,86	7,82	12,56	42,84	20,85	76,52	20,85	66,72
2.	Paper	3,87	6,23	6,55	22,34	10,45	38,35	10,45	33,44
3.	Paperboard	1,30	2,09	0,70	2,39	1,63	5,98	1,63	5,22
4.	Plastic	5,21	8,39	8,98	30,62	9,43	34,61	9,43	30,18
5.	Textile	3,48	5,60	4,70	16,03	3,40	12,48	3,40	10,88
6.	Rubber	1,15	1,85	0,45	1,53	1,10	4,04	1,10	3,52
7.	Leather	1,36	2,19	1,35	4,60	2,10	7,71	2,10	6,72
8.	Garden	14,12	22,73	14,00	47,74	5,53	20,30	5,53	17,70
9.	Wood	2,14	3,45	2,28	7,77	1,58	5,80	1,58	5,06
B. Non-organic									
1.	Glass	8,85	14,25	3,40	11,59	8,78	32,22	8,78	28,10
2.	Metals	2,88	4,64	1,30	4,43	2,83	10,39	2,80	8,96
3.	Inert	6,70	10,79	1,23	4,19	3,55	13,03	3,55	11,36
C. Other									
1.	Ash, cinder, soil, manure and other	44,08	70,97	42,50	144,93	28,77	105,70	28,80	92,16
Total		100	161	100	341	100	367	100	320
Biodegradable		38,35%	61,7	47,99%	163,7	48,43%	177,8	48,45%	155,0

4. The quantity of the biodegradable waste produced in 2001 in the country is estimated to 1 048 thousand tones (47% of the total waste production) as it is assumed that in this

group fall the food waste, paper and cardboard waste, garden and wood waste; 20% of the textile waste, 25% of leather waste and 25% of the group of other (unidentified) waste.

5. For the prognosis of the future quantities of the produced municipal waste for the period 2003-2015 an assumption that the municipal waste quantity per capita per year will grow up by 1/5 of the percent of the annual increase of the real incomes is made.
6. For the next 10-15 years the following prognosis for the alteration of the municipal waste composition could be made:
 - The paper and the paperboard, plastics, textile, leather and wood will have trend for increase. Such increase is expected to be more significant for paper and plastics and could be expected to reach the bottom levels of these fractions in EU states;
 - The quantities of glass waste are expected to be stabilized and decrease of the share of this waste in the total content as a result of the increase of the total waste quantities;
 - The metals (ferrous and non-ferrous) will keep certain stability but the increase of their share in some packages will lead to slow increase;
 - Food waste, mineral waste and unidentified waste will decrease insignificantly in the coming years.
7. The consequences of these trends for the remaining characteristics of the waste as a whole will be the following:
 - Decrease of dampness which is mainly due to the food waste;
 - Increase of the bottom level of the caloric capacity of waste (caloricity) due to the increase of combustibles (paper, paperboard, plastics, leather, wood and textiles). This situation will stand until separate collection of recyclable components is introduced (mainly paper, paperboard and plastics);
 - Decrease of the density due to on the one hand of the increase of the light materials (paper, plastics, wood and others) and on the second hand due to the decrease of the heavy materials (mainly organic waste);
8. On the basis of questionnaires disseminated by MEW in the framework of the project [2], the municipal administrations presented proposals for regional cooperation and construction of 51 landfills for waste that will serve the whole population of the country. The proposed regions are presented in Appendix 7. The landfills indicated have to be put into operation up to 2009 and have to provide enough capacity for the disposal of whole quantity municipal waste produced in the country. Additionally the plan assumes that additional financing will be provided for the maintenance of 3 existing landfills serving more than 300000 inhabitants, which will be closed before 2008. These are Suhodol (Sofia), Tsalapitsa (Plovdiv) and Vaglen (Varna).
9. The indicated 54 landfills are separated in 6 groups:
 - Group 1 12 existing landfills that meet the legal requirements and will be in operation for the period of validity of the plan. Three of the landfills within this group will be closed in 2008.
 - Group 2 6 regional landfills for which funding by ISPA is approved and

	the construction will start in 2003.
<u>Group 3</u>	10 landfills that in 2003 are in the process of construction financed by state budget, SEMEA and/or other sources.
<u>Group 4</u>	Landfills that should be constructed as soon as possible because the free capacity is running out or the existing facilities present considerable risk to the environment
<u>Group 5</u>	Landfills that should be constructed because the free capacity of the existing facilities is running out or the facility presents risk to the environment;
<u>Group 6</u>	Landfills that should be constructed because the free capacity is running out or serve relatively small number inhabitants and the existing facilities do not present real risk to the environment.

10. For the determination of the investments necessary for the construction of the regional landfills for waste:

- For the regional landfills included in Group 1 it is accepted that no extension or reconstruction is envisaged for the period till 01.01.2007 and there will be no investments except the usual expenditures for maintenance. For these landfills investments are envisaged for the period 2008-2010, in connection to the extension of the existing sites. The investments envisaged for 3 of the existing landfills: Suhodol (Sofia), Tsalapitsa (Plovdiv) and Vaglen (Varna) are related only to the ensuring of their operation until their closure in 2008. For each of the above-indicated 3 landfills it is envisaged that new landfill in Group 5 will be constructed.
- For the regional landfills included in Group 2 the data used about the amount of the necessary investments is according to the documentation for financing of the project through ISPA.
- For the regional landfills included in Group 3:
 - The investments in 2003 are determined in accordance to the financial resources allotted as specialized financing by the state budget (Appendix 5 of the State Budget Act);
 - An analogical assumption about the future extension of the sites is made as it is in Group 1 and the related investments are referred for the period 2011-2013.
- For the regional landfills included in Group 4 it is envisaged that the preliminary activities will start in 2003 and the construction will be completed in 2006.
- For the regional landfills included in Group 5 it is envisaged that the preliminary activities will start in 2004 and the construction will be completed in 2008.
- For the regional landfills included in Group 6 it is envisaged that the preliminary activities will start in 2005 and the construction will be completed in 2009.

11. For each of the landfills included in the above groups the necessary capacity by years is determined on the basis of the prognosis for the quantities of the municipal waste and the data for the population served by each landfill.

12. The identified 51 landfills, that are to be in operation after 16 July 2009 are allocated by groups as follows:

- Group 1, Group 2, and Group 3 includes 23 regional landfills for municipal waste that will be in operation until the date mentioned above. The indicated number does not include tree of the landfills listed in Group 1 – Suhodol (Sofia), Tsalapitsa (Plovdiv) and Vaglen (Varna) that will be stopped of operation till 2008;
- After the determination of the necessary investments for the rest 28 landfills the allocation by groups is done taking into account the financial abilities for the period 2004-2009. As a result 8 landfills in Group 4, 13 landfills in Group 5 and 5 in Group 6 are identified (Appendix 7, Appendix 10).

13. The necessary investments for each landfill are determined by model (Appendix 8) that takes account of the capacity of the landfills for which the following assumptions are made:

- operation period of 15 years;
- term for the preliminary activities and construction – 3 years;
- construction and operation of the landfill in 3 stages;
- density of compacting waste 0,95 tones per cubic meter for the landfills with capacity above 5000 tones per year and 0,75 tones per cubic meter for landfills with capacity below 5000 tones per year;
- average depth within the limits of 3-18 meters depending on the landfill capacity;
- surface of the landfill determined as a function of the necessary capacity for envisaged period of operation and assumed density of compacted waste and the average depth;
- the single prices of the different components for landfill construction are according to the actual prices in 2002.

14. The model includes determination of the necessary investments related to:

- Preliminary actions – studies, design, obtaining of necessary permits assignation of the construction;
- Acquisition of the land;
- Construction works allocated in the following groups:
 - Initial construction works related to the preparation of the site including excavation, preparation of the landfill foundation, compacting etc.; construction of primary buildings and facilities; construction works on the first stage of the landfill;
 - Investments during the operation including finish-up of the second and third stage of the landfill;

- Equipment and mechanics– it is accepted that the operation period for the means of transport, compacting, load- and dump- techniques, the pumps for leachate and maintenance equipment is 7.5 years and for the rest of the equipment (for example weighbridge, lighting etc.) operation period coincides with the operation period of the landfill;
- Construction of gas drainage layer;
- Closure and land restoration of the landfill site – it is accepted that the investments related to this activities are performed after the completion of each stage.

The calculations are performed with the assumption of unexpected costs in the amount of 8% of the preliminary activities and construction works.

15. The composting is envisaged as the main method for the reduction of the quantities of the biodegradable municipal waste. For the estimation of the costs resulting from the requirement for reduction of the quantities of the biodegradable municipal waste it is assumed that 18 regional installations for composting will be constructed as each installation will have annual capacity of 20000 tons. The first 6 installations will be constructed till 01.01.2010. On the base of the experience and results achieved from the operation of these installations gradual construction of the rest 12 installations will be planned. For the purposes of the plan the construction of all envisaged installations is calculated and the investments are apportioned for the period until 2020. The estimation of the necessary investments is performed on the basis of a model of composting plant with annual capacity 20000 tons waste per year (Appendix 8), as the following costs are envisaged:
 - preliminary activities;
 - land acquisition;
 - construction works;
 - supply of equipment and mechanics as 7.5 year operation period is assumed.

The calculations are made with the assumption for unexpected costs in amount of 8% of preliminary activities and construction works.

16. The expenditures for closure of the existing landfills are valued taking into account the designed area of the existing 663 landfills in the year 2001 and that the price for restoration of 1 square meter costs 18 BGN. It is assumed that the costs in 2003 will amount to 2% of the total costs for closure and land restoration and will be increased gradually till 2009 when will achieve 6%. After 2009 the rest costs for closure and land restoration of the existing in 2001 landfill sites are apportioned for the period till 2020. The financial sources for the closure of the landfills are from the state budget and the budgets of the municipalities in a proportion of 50%/50%.
17. The resources for closure of the dumpsites and past waste damages (5135) will be allotted by municipal budgets and on estimation of municipal administration will amount to 35 millions BGN. This sum will be apportioned for the period 2003-2007.

4.2. LANDFILLS AND FACILITIES FOR TREATMENT OF INDUSTRIAL NON-HAZARDOUS WASTE

For the period of validity of the program the following factors will contribute to the increase of waste quantities of industrial waste:

- Increase of GDP and the expected growth in the industrial production;
- Increase of waste production can be expected as a result of the construction of new, reconstruction and improvement of the operation of the existing waste water treatment plants as well as installment of air pollution abatement equipment in termo-electric power plants and other facilities;
- Increase as a result of the measures that will be taken by the industry for the reduction of the hazardousness of the produced waste and re-classification of hazardous waste as non-hazardous.

The following factors will contribute to the decrease of waste quantities:

- Decrease of waste quantities as a result of the activities undertaken by the companies for improvement of the operation, implementation of clean technologies, changes of the raw materials, introduction of environmental management systems;
- Decrease of waste quantities as a result of closure of unprofitable industries;
- Decrease of waste quantities as a result of the application of methods for treatment of waste (for example reduction of water content in sludges from WWTP);
- The future waste production levels will depend on the above indicated factors and it is necessary to be reflected that some of them could have restricted in time influence.

The growth of the industrial production in leading sectors as energetics, chemical industry, metallurgy and food industry will be determinative for the total levels of waste production.

The plan envisages that the investments related to re-construction, construction of new landfills for waste and the implementation of the requirements for pre-treatment of waste should be ensured fully by the operators of the respective facilities.

4.3. LANDFILLS AND FACILITIES FOR TREATMENT OF HAZARDOUS WASTE

Such as for the industrial waste, the plan envisages the investments related to reconstruction, construction of new landfills for hazardous waste as well as the investments related to the prohibition for landfilling of specific groups of waste and the implementation of the requirements for pre-treatment of waste to be ensured fully by the operators of the respective facilities. Taking into account the necessity of establishment of adequate network of disposal facilities and installations the plan confirms the necessity of construction of National centre for treatment of hazardous waste. For the determination of the necessary financial resources for the implementation of the plan only the part of the investments for construction of landfill for hazardous waste within the National centre in the amount of 5100 thousand euros (75% of the total amount) are taken into

account with the assumption that ISPA will fund the project. It is envisaged that the above resources will be assimilated in 2005 and 2006 through the construction of the landfill

The financial plan includes also funds allotted by the state budget for the elimination of damages arisen in the past at the enterprises subject to privatization in the part related to waste management. Within the framework of the implementation plan only the expenditures for the implementation of the executive agreements concluded till this moment have been presented i.e. for the enterprises privatized till the end of 2002.

4.4. DETERMINATION OF THE NECESSARY INVESTMENTS FOR THE IMPLEMENTATION OF THE PLAN

After prioritization of the regional landfills and estimation of the necessary funds related to the construction of installations for composting, construction of National centre for treatment of hazardous waste, elimination of past waste damages arisen before the privatization of the industrial enterprises and for remediation of illegal dumpsites a concrete program for investment through the years is prepared. The following factors have been taken into account for the preparation of the program:

1. The Road map for accession of Bulgaria to EU till 2007 prepared by European Commission and the possibilities for funding through the pre-accession instruments.
2. The prepared macroeconomic framework that allows the determination of the upper investment thresholds for the period 2003-2020.
3. Determination of the part of the public financial resources that will be spent for projects related with the implementation of the Directive 1999/31/EC.
4. Determination of the portion of Bulgarian partnership in co-financing of projects. For this purpose the working hypothesis is assumed that the portion of the Bulgarian co-financing will grow up through the period.
5. Determination of the independent Bulgarian investments for construction of regional landfills for municipal waste, closure of the existing landfills, remediation of past waste damages, allocation of the State budget and the budgets of the municipalities. The prognosis of these expenditures is based on the historical budgets, the information from NSI for the amount of the investments and the hypothesis that these financial resources will grow up by the same rate as the GDP of the state.
6. The resources that will be spent by SEEMA are prognosticated on the base of historical information as the grow trough the years is planned to be the same as the grow of the GDP.
7. A conservative prognosis have been made for the participation of other donors for financing of investment projects in the waste disposal sector as well as for the funding provided by private investors.
8. For the determination of the upper thresholds of financing it is included the restricting condition related the part of these expenditures of GDP. According to the road map for the state, Bulgaria may use 5 times more financial resources from the structural funds than the resources used from the pre-accession instruments. This increase will require a jump of the resources related with the Bulgarian financing which is unusual for the budget practice.
9. Taking into account the above assumptions the amount of the necessary investments for the implementation of the program is presented in Appendix 11. The total amount of the necessary financial resources is estimated to 933 millions BGN (Euro 477,5 mln.) for the period 2003-2015. The allocation of the funds between the different activities is as follows:

- construction of regional landfills for municipal waste – 578 mln.BGN;
- closure of the existing landfills for municipal waste in operation in 2001 -151 mln.BGN;
- closure of the illegal dumpsites and remediation of past damages with municipal waste – 35 mln.BGN;
- construction of installations for composting – 103 mln.BGN;
- construction of a landfill for hazardous waste in the framework of the National centre for treatment of hazardous waste - 10 mln.BGN;
- closure/land restoration of landfills for hazardous waste in the framework of the programs for elimination of past waste damages at privatization of industrial enterprises - 56 mln.BGN;

10. The prognosis for the sources of the necessary funds is presented in Appendix 12. The national finding presented as a percent of GDP ranges between 0,06% and 0,14%. The state have to allot the biggest percent of GDP for financing of these projects in 2007 – 0,14%. The high amount of the necessary investments is the initial stage of the plan is basically as a result of the requirement for closure/bringing into compliance of the existing landfills till the middle of 2009.

5. IMPLEMENTATION STRATEGY

The plan for the implementation of Directive 1999/31/EC is developed in order to present the framework for taking of decisions for future planing, permitting of the waste disposal infrastructure in the country and for the management of the landfill activities in compliance with the environmental protection standards adopted in EU.

The landfill of waste should be considered in the context of the general national policy in the field of waste management and the protection of the environment. In the framework of this section of the plan the base priority fields are outlined providing harmonization of the national legislation with the requirements of the directive and its further implementation. The plan presents the framework for planning by part of municipal administrations, landfill operators and holders of the waste.

As a result of the implementation of the plan it is expected that the risks to human health and environment resulting from landfill of waste will be restricted to the highest possible extend at an expenditures affordable for the public.

5.1. LEGAL MEASURES

5.1.1. Harmonization of the national legislation

The harmonization of the national legislation with the requirements of Directive 1999/31/EC will be achieved by the adoption of the new *Waste Management Act* and the following amendment of *Regulation No 13 on the conditions and requirements for the construction and operation of landfill of waste* till the end of 2003. By the proposed amendments it will be ensured:

1. Fixing of terms for bringing into compliance with the legal requirements of the facilities for landfilling of waste in conformance with the same in the Directive 1999/31/EC.

2. Introduction of a clear procedures for permit application and permitting of the operation of landfills by the respective competent authority – MEW or RIEW, by replacement of the existing provisions with provisions corresponding to the Directive 1999/31/EC.
3. Introduction of quantitative targets for reduction of biodegradable waste and related requirements.
4. Amendment of the respective municipal regulation on collection, storage, transportation of municipal and construction waste and the relevant municipal programs in accordance to the requirements and objectives of the national legislation.
5. Harmonization of Bulgarian national standards (BDS) on sampling, determination of the general waste properties, leaching indicators etc. with the international (ISO) and European (CEN) standards in relation to the monitoring of landfills for waste and the implementation of the waste acceptance criteria in different classes of landfills
6. Introducing of the requirement that funding of projects by SEEMA and State Budget will be performed in accordance with the Plan for the implementation of the Directive 1999/31/EC and the National waste management program (2003-2007).

5.2. ADMINISTRATIVE AND ORGANIZATIONAL MEASURES

5.2.1. Strengthening of the administrative capacity

In the period of validity of the plan MEW will continue to coordinate the work of the different state institutions on the conduction of the national waste management policy. The envisaged measures are related to:

- appointment of additional staff in the competent authorities MEW, EEA and RIEW in 2003 in connection to the enforcement of the legal requirements related to landfill of waste and securing of adequate control upon the facilities
- strengthening of the administrative capacity for preparation and management of ISPA projects and the Cohesion fund in future according to the National strategy for use of the structure funds on national and municipal level
- Implementation of a program for the training of the experts in the above mentioned institutions, related to permitting, inspecting, reporting and monitoring of landfills for waste will contribute to increase of the effectiveness of the control bodies and to equalization of the procedures applied in the different regions of the country
- finish-up of the existing laboratory system and accreditation
- development of a plan for carrying out inspections and control on the permits issued to landfills for waste and the implementation of the designed technologies for operation of the facilities.

5.2.2. Information and reporting

Irrespective of the actions for the improvement of the work of the information system undertaken during the last years the collection, processing and reporting of data is still not on the appropriate level. The envisaged measures are related to:

- development and the introduction of centralized system for collection and processing of information and providing of enough reliable data on the landfills of waste, treatment costs, quantity of the biodegradable

- data collection, assessment on the spot and completion of the register of the existing landfills including assessment of the risks for human health and environment caused by the facilities
- establishment of procedures for collection and processing of information and preparation of reports to the European Commission and European Environmental Agency
- Development of pilot information to European Commission for reporting on Directive 1999/31/EC.

5.2.3. Communications with the industry and the public

The overcome of the different social, economic and institutional barriers for the implementation of the plan will require intensive dialog between state authorities, municipalities, industry and population and finding of understanding solutions.

5.3. TECHNICAL MEASURES FOR THE IMPLEMENTATION OF DIRECTIVE 1999/31/EC

5.3.1. Bringing into compliance / closure of the existing landfills

At the present moment significant part of landfill sites used for disposal do not fulfill the requirements of the Directive. Because of the high potential risk from the existing facilities it is a matter of high priority to be rehabilitated with purpose of securing the future operation or the necessary new facilities to be constructed. The enforcement of the legislation upon the existing facilities will be a matter of high priority. By the plan it is envisaged:

- The operators of landfills for waste to be obliged to prepare and present for approval by the competent authority conditioning plans for bringing into compliance with the requirements of the directive or closure;
- The operation of the existing landfills for waste after 31.12.2004 will be allowed only if conditioning plan is presented;
- Stop of operation, closure and/or adaptation to the requirements of all existing landfills for waste that do not meet the legal requirements in force till 16.07.2009.

The construction of the new regional landfills for municipal waste will allow the stop of operation of the existing 663 landfills for the period till 16 July 2009. The stop of operation of each facility will coincide with the terms for construction of the new landfill for that region.

As an initial measure it is envisaged that a plan for study, risk assessment and prioritization of the land restoration of the existing landfills. The results from the landfills already assessed and the information contained in the register for the landfills and past waste damages in EEA will be used as a basis for the elaboration of the plan. Taking into account the expected high costs for remediation and land restoration of the existing landfills, the landfills that present the highest risk to the environment will be of highest priority in the initial years.

The closure and land restoration of the landfills for industrial and hazardous waste out of the scope of the programs funded by the state will be an obligation of the respective operators according to the conditioning plans in Art. 14 of the Directive.

5.3.2. Construction of new facilities for landfill of waste

- Landfills for municipal waste

At the moment the landfilling is the only method for disposal of municipal waste in Bulgaria and due to the high costs for application of other methods in near future it will remain the most preferable option. The establishment of system of 51 regional landfills for disposal of municipal waste will be the main priority of the plan. These landfills will have the necessary capacity for acceptance of all quantity of municipal waste destined for landfilling till 16 July 2009.

- Landfills for industrial non-hazardous waste

The construction of new landfills for industrial non-hazardous waste that will replace the existing facilities is obligation of the enterprises according to the terms fixed in the company's waste management programs approved by RIEW.

The decision for the construction of new landfills will be taken on the basis of the conditioning plans according to Art. 14 of the Directive, presented by the operators of the existing landfills with a view the necessary capacity for landfilling to be ensured till the beginning of 2009.

- Landfill for hazardous waste

The construction of National centre for treatment of hazardous waste that includes landfill for hazardous waste, landfill for asbestos containing waste, installation for physical and chemical treatment, incinerator is one of the priority investment projects in the framework of the plan.

The companies that produce large quantities hazardous waste also will construct their own facilities for disposal in compliance with the waste management programs of the companies or the conditioning plans. The main efforts will be directed toward efficient enforcement of the legislation within the fixed terms and the presentation of financial securities by the companies concerned ensuring the implementation of the approved measures.

The plan envisages for the period till 16 July 2009, 10 landfills for hazardous waste to be constructed and put into operation as follows:

	Appellation of the landfill	Term for putting into operation
1.	Landfill for hazardous waste (within the National center for treatment of hazardous waste)	31.03.2007
2.	Landfill for asbestos containing waste (within the National center for treatment of hazardous waste)	31.03.2007
3.	Cell for landfilling of hazardous waste within the regional municipal landfill for the region of Ruse;	30.09.2006.
4.	Cell for landfilling of hazardous waste within the regional municipal landfill for the region of Sevlievo;	30.09.2006
5.	Cell for landfilling of hazardous waste within the regional municipal landfill for the region of Sofia;	31.12.2008
6.	Landfill for hazardous waste of "LukOil Neftochim" Bourgas	31.07.2005
7.	Landfill for hazardous waste of "OCK" Kardjali	31.12.2006
8.	Landfill for hazardous waste of "KCM" Plovdiv	31.10.2005
9.	Landfill for hazardous waste of "Umikor Med" Pirdop	31.12.2005
10.	Landfill for hazardous waste of Agropolichim Devnya	31.12.2006

The construction of the above-indicated facilities will ensure enough capacity for landfilling of the whole quantity of hazardous waste destined for landfilling.

5.3.3. Liquidation of past waste damages and illegal dumpsites of municipal waste

The plan envisages gradually cleaning-up, remediation and land restoration of the identified 5135 past waste damages illegal dumpsites of municipal waste.

The plan envisages the cleaning up of all existing illegal dumpsites of municipal waste to be completed till the end of 2009. The municipal administrations will be responsible for the preparation of detailed plans for cleaning and land restoration of the illegal dumpsites. The implementation of the plans will be approved and controlled by the respective RIEW.

As a first step a program for study, assessment of the risk, prioritization and closure of the past damages will be prepared. As a basis of the program the results from the assessed till the moment landfills for waste will be used as well as the information available in the register of the landfill sites and past damages in EEA.

Because of the expected high expenditures for the implementation of the program in the first years the damages with highest risk to the environment will be of highest priority.

The implementation of the programs for remediation of past waste damages, funded by the state by virtue of agreements concluded with the enterprises privatized after 1999 will continue during the years in the near future.

The closure and land restoration of the of the landfill sites for industrial and hazardous waste out of the scope of the programs funded by the state is an obligation of the respective operators.

5.3.4. Implementation of the requirements for reduction of the quantities biodegradable waste going to landfills

At the moment there is no real possibility for recovery of biodegradable waste in the country and the waste are landfilled totally.

The adoption of the national strategy for the reduction of the quantities biodegradable municipal waste will determine the specific measures for implementation and the capacity necessary for treatment of biodegradable waste. On the basis of the strategy the measures in the plan will be reassessed and specified.

In short term aspect enough reliable information on the quantities and quality of the produced municipal biodegradable waste have to be provided in order to be used for development of the national strategy in the field.

For the period of validity of the program effort to promote the market of the compost will be made by actions in the following directions:

- Introduction of legal requirements for treatment of biodegradable waste;
- To promote the construction of installations for composting of waste by granting preferential conditions for financing including giving the possibility for funding from foreign sources;
- To ensure the use of compost in cases where it is acceptable in land restoration of past waste damages funded by the state.
- Conduction of informational campaigns for agricultural farms about the benefits from composting and use of compost.

Despite the above it could be accepted that long term planning of the national infrastructure will require the realization of few pilot installations for composting as by their operation useful practical experience will be gathered.

5.3.5. Implementation of the requirements for pre-treatment of waste

The application of pre-treatment of waste is obligatory requirement of the directive. The pre-treatment of waste prior landfilling (with exception of the separation at the source) is related with high costs and can not be considered applicable in the next few years. Despite this the implementation of this requirement could be related with significant benefits to the environment and the first steps in this direction have to be made in the next few years. The pre-treatment at the same time could increase the costs for waste disposal significantly thus to promote recycling and recovery.

The pre-treatment of the municipal waste should be considered simultaneously with the implementation of the requirements for the biodegradable waste.

In short term aspect efforts will be directed in the following fields:

- Pre-treatment of hazardous waste with a view to reduce leaching of hazardous substances from the landfills of waste;
- Pre-treatment of waste that could lead to recycling and/or recovery;
- Pre-treatment of waste from the large industrial waste producers.

5.4. FINANCIAL MEASURES

At the moment the financing of the investments for the new landfills is covered fully by the state or foreign sources. Measures for the improvement of the efficiency of the spending of financial resources allotted by the state, EU and other donors are envisaged by the plan. The efficient spending of the funds allotted as national or foreign financing will be base priority of the work of the state institutions.

The short terms for the construction of new landfills for waste will require finding of an optimal balance between different possibilities and financial sources with the aim of increasing the investments in the sector.

The State Enterprise for environmental management activities (former National Environmental Protection Fund), will continue to provide funds to the municipalities for realization of infrastructure projects by means of free grants and low interest rate credits. Providing of financing for the activities preceding the implementation of the projects and the preparation of the projects in the plan will be useful for the preparation of enough number of projects.

The free granted funds by the state budget for the establishment of the national infrastructure for disposal of municipal waste, will continue to play key role in middle term aspect. The funds from the state budget will be spent for projects for construction of landfills and in relation to the implementation of the requirements for biodegradable waste executed directly by the municipalities or by means of co-financing for projects with international participation.

The national financing according to the prognosis for the eventual sources for providing of the investments (Appendix 12), presented as a percent of GDP ranges between 0,06% and 0,14%. These parameters should be reflected during the planning of the State budget and to be provided financially in th period tll 2014.

The closure of the existing landfills for municipal and illegal dumpsites is envisaged to be performed with financial resources provided by the budgets of the respective municipalities. Nevertheless the state will continue to support the above mentioned activities by funds allotted by the State budget and The Enterprise for Management of Environmental Activities

The implementation of the plan will not be possible without considerable external financing granted by different European and international financial institutions and programs. The role of the financing allotted by ISPA and other EU sources will grow up significantly for the period of validity of the plan and this will require additional efforts by the state institutions in relation to the management of the projects and assimilation of funds.

The preparation of larger number and quality projects to be presented for financing will be of decisive significance for the successful implementation of the plan. This will require increase of the capacity of the state authorities and municipalities for preparation, prioritization, presentation and management of projects.

The increase of the investments in the sector will be basic priority in the national policy for the coming years.

5.5. TRANSITIONAL PERIODS

5.5.1. Biodegradable waste

In relation to the requested by Republic of Bulgaria transitional period considering Article 5 (2) of the Directive the plan takes into account the following circumstances:

- The quantitative targets imposed by the Directive for reduction of biodegradable waste going to landfills which Republic of Bulgaria should achieve have to be defined according to the quantities biodegradable waste landfilled in 1995;
- Republic of Bulgaria has presented to EUROSTAT for validation the available data for the produced and landfilled municipal waste in 1995 certifying that the country has landfilled more than 80% of the collected municipal waste;
- The quantities of the landfilled biodegradable municipal waste, which have been reported in 1995, are considerably higher in comparison with those landfilled currently into the country.
- The lower quantities of the landfilled biodegradable waste which are expected to be produced during the period of implementation of the plan comparing to the same in 1995 will allow the achievement of the targets by significantly lower investments and expenditures than the expenses expected initially.
- There are possibilities for funding of the investments related to the treatment of biodegradable waste by ISPA and other EU pre-accession funds;
- The reduction of the quantities biodegradable waste being landfilled will be related with visible benefits to the environment;

Taking into account the above mentioned circumstances the plan envisages Republic of Bulgaria to achieve the targets set in Article 5 (2) for the reduction of the quantities municipal biodegradable waste going to landfills taking the possibility to postpone the implementation with additional 4 years according to the same Article of the Directive.

In this way Republic of Bulgaria withdraws the requested transitional period for the reduction of the quantities of biodegradable municipal waste going to landfills and the achievement of the targets set

in Article 5 (2) of Directive 1999/31/EC will be ensured by the implementation of the measures envisaged in section VIII of the Technical measures in the Action plan of the implementation plan.

5.5.2. Landfill of liquid waste

The plan confirms the necessity of the requested transitional period for the prohibition of landfilling of liquid waste for 14 of the existing disposal facilities listed in Table 4-5 from Appendix 4 of the plan.

The grounds for the requested are that there are one or more of the following circumstances for each of the facilities subject to the requested transitional period:

- maintenance of high level of water table is technically necessary solution with a view to avoid the spreading of the dust resulting from the waste and prevention of air pollution and surrounding soils at the area of the facilities;
- the facilities are constructed on the territory of the respective industries and in the near there are no enough space allowing the construction of new facility with enough capacity to cover all waste;
- there are no economically feasible technical solution allowing full remove of the use of process water;
- the facilities are part of the general system for cleaning of waste water used in the respective industry;
- the waste quantities are considerable and there are no appropriate methods or capacity for recovery;
- the operation of the landfill is connected to the life cycle of the respective industry and the construction of new facility for disposal of waste is not technically and economically grounded;
- the available information on the state of the environment do not indicates negative impacts as a direct result of the operation of these facilities;
- during the period to the accession of Republic of Bulgaria the annual production volume of some of the concerned economic operators respectively the quantities of the produced waste will be considerably reduced.

Based on the above mentioned circumstances the requested transitional period could be reduced:

- to the existing 14 facilities listed in Table 4-5 of Appendix 2 of the plan;
- to Article 5(3)(a) on the prohibition of the landfilling of liquid waste,
- to Article 5 (3)(b) on the prohibition of the landfilling of waste types having specific characteristics (only the provisions for the following properties: corrosive and oxidizing),

- to Appendix I, item 2, second indent on the prevention of water entering in the waste (only the provisions connected to the prevention of the surface water entering the waste).

By the measures envisaged in the action plan of the present implementation plan Republic of Bulgaria will perform of risk assessment for each of the facilities subject to the requested transitional period in order to assess the compliance with Article 4 of the Directive 75/442/EC on waste. The assessment will be carried out in the framework of the project “National program for reduction of the risk by the landfills and past waste damages” funded by the government of German Federal Republic through “Deutsche Gesellschaft fuer Technische Zusammenarbeit” (GTZ) GmbH and is to be completed till the end 2004.

Republic of Bulgaria has made significant efforts to reduce the number of the facilities subject to the requested transitional period. As a result 15 from the total number of 29 facilities using hydro-transportation of waste at the moment will be in condition to be adapted to the requirements of the Directive 1999/31/EC. It is envisaged for the period till 16 July 2009 for the each of the facilities the following measures to be implemented:

- Facility No 11, of the Table 4-3, Appendix 4 will stop the acceptance of liquid waste because it will stop to incinerate coals in TEPP “Toploficacia” and will proceed to use natural gas.
- Facilities No 1, 14, 15, 17, 19 and 29 of Table 4-3, Appendix 4 will stop the acceptance of liquid waste. The respective companies will construct new facilities for temporary storage (for period less than 1 year) of waste destined for disposal;
- Facilities No 3, 12 and 16 of Table 4-3, Appendix 4 will be closed. The respective companies will construct new facilities for temporary storage (for period less than 1 year) of waste destined for disposal;
- Facilities No 2, 7, 9, 18 and 28 of Table 4-3, Appendix 4 will be closed. The respective companies will construct new facilities for temporary storage (for period less than 3 years) of waste destined for recovery. The terms for closure/adaptation to the requirements of each facility will be determined in accordance with the conditioning plans according to Article 14 of the Directive presented by the operators of the existing facilities.

6. ACTION PLAN

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
A.	LEGAL MEASURES				
I.	Harmonization of the national legislation				
1.1.	Introduction of the terms for bringing into compliance with the requirements of the Directive 1999/31/EC as laid down in the Directive	31.12.2003	MEW	-	-
1.2.	Amendment of Regulation No 13 on the conditions and requirements for the construction of landfills for waste in compliance with the Directive 1999/31/EC	31.12.2003	MEW, MH, MRDPW	-	SEEMA
1.3.	Introduction of quantitative targets for reduction of biodegradable waste and related requirements.	31.12.2003	MEW, MH, MRDPW	-	
1.4.	Amendment of the respective municipal regulation on collection, storage, transportation of municipal and construction waste and the relevant municipal programs in accordance to the requirements and objectives of the national legislation.	30.9.2004	Municipalities	-	Municipal budgets
1.5.	Harmonization of Bulgarian national standards (BDS) on sampling, determination of the general waste properties, leaching indicators etc. with the international (ISO) and European (EN) standards in relation to the monitoring of landfills for waste and the implementation of the waste acceptance criteria in different classes of landfills	30.06.2003 – 31.12.2005	MEW, EEA, SSMA	350	State budget, SEEMA
1.6.	Development of internal rules of SEMEA for funding of waste management projects including for installations and facilities for treatment of waste	Mart, 2003	SEEMA	-	-
B.	ADMINISTRATIVE AND ORGANIZATIONAL MEASURES				

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
II.	Institutional development and strengthening of the administrative capacity				
2.1.	Appointment of additional staff in the competent authorities including: - MEW – 8 experts; - EEA – 6 experts; - RIEW – 30 experts.	30.06.2003 – 31.12.2004	MEW (EEA, RIEW)	Acc.inv.plan	State budget
2.2.	Finishing up of the national laboratory system for waste including:	30.06.2003 30.06.2005	EEA, National Center of Hygiene, Medical Ecology and Nutrition (NCHMDE)		
2.2.1.	Analyze of the necessary equipment and determination of the necessary costs for supply, maintenance and accreditation of the national laboratories in EEA and the National centre for hygiene, medical ecology and feeding.	31.12.2003	EEA, NCHMDE	100	SEEMA, foreign sources
2.2.2.	Supply of the necessary equipment, training of the staff and accredited laboratories	01.01.2004 30.06.2005	EEA, NCHMDE	2500	Foreign sources, State budget, SEEMA

Nº	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
2.3.	Introduction of requirements for and carrying out of periodical inspections of facilities for landfilling of waste including check-up of the origin and destination of waste	01.1.2004	MEW, RIEW	-	-
2.4.	Development of a plan for carrying out inspections and control on the permits issued to landfills for waste and the implementation of the designed technologies for facility operation including: - development of guidelines for inspection and control on the conditions of the permits and overall state of the landfill.	01.06.2003	RIEW	-	-
2.5.	Training of the experts in RIEW for carrying out of inspections, permitting etc.	permanent	MEW	10 years	SEEMA
2.6.	Strengthening of the administrative capacity for preparation and management of ISPA projects and the Cohesion fund in future according to the National strategy for use of the structure funds on national and municipal level;	2003- 2007	MEW	4	EU, State budget
III.	Information and reporting				
3.1.	Inclusion of the results from the landfill monitoring and the information for the costs for landfilling in the national system for environmental monitoring (NSEM)	01.1.2004	RIEW, EEA	-	-
3.2.	Improvement of the operation of the existing information system in relation to classification, collection, processing, analysis and dissemination of data and information for the sources, type, quantities and treatment of waste and the state of the facilities for disposal and recovery	permanent	EEA, RIEW		State budget

Nº	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
3.3.	Data collection, assessment on the spot and completion of the register of the existing landfills including assessment of the risks for human health and environment caused by the facilities:	31.12.2004	EEA, RIEW	1500	Landfill operators, SEEMA, foreign sources
•	Landfills for non-hazardous waste (including municipal waste) and landfills for inert waste	30.6.2005	Operators, Municipalities, RIEW, EEA		Municipalities, SEEMA
•	Landfills for hazardous waste	31.12.2003	Operators, RIEW, EEA		Landfill operators
3.4.	Establishment of procedures for collection and processing of information and preparation of reports to the European and international institutions in relation to the implementation of the international obligations in the field of waste landfilling (the Secretariat of the Basel Convention, European Commission, European Environmental Agency)	31.12.2004	MEW, EEA	-	-
3.4.	Introduction of requirements, procedures and the respective software products and technical means allowing presentation and processing by the landfill operators of the annual reports and data in electronic form	01.1.2006	EEA, RIEW	350	SEEMA, foreign sources

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
3.5.	Development of pilot information to European Commission for reporting on Directive 1999/31/EC	2004	MEW	-	-
IV.	<u>Informing and communications with the public</u>		-		
4.1.	Realization of national programs for training and professional qualification of environmentalists in the companies that produce waste and landfill operators	01.01.2004 - 31.12.2004	MEW	50	SEEMA
4.2.	Development and implementation of a program for current communication and consultations as well as training of the environmentalists in the municipalities, companies producers of waste and landfill operators on the implementation of the program	01.01.2004 – permanent	MEW	50	SEEMA
4.3.	Organization of information campaign for the reduction of biodegradable waste, implementation of composting and use of the compost in agriculture.	31.12.2004	Ministry of Education and Science, MEW	-	-
C.	TECHNICAL MEASURES				
V.	Bringing into compliance with the requirements/closure of the existing landfill sites				
5.1.	Development of conditioning plans for bringing into compliance with the requirements of the directive or closure of all existing landfills and approval by the competent authorities	30.06.2004	Operators, Municipalities, RIEW for approval		Landfill operators

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
5.2.	Closure of all existing landfills that do not fulfill the requirements of the legal requirements in force.	30.7.2009	RIEW - for control on the implementation		Landfill operators
•	landfills for non-hazardous waste (including municipal waste)	30.07.2009	Municipalities		Municipalities
•	Landfills for hazardous waste	31.12.2007			Landfill operators
5.3.	Strengthening of the control on landfills in operation for the implementation of the requirements waste acceptance and monitoring	permanent	RIEW, EEA	-	-
5.4.	Introduction of adequate sanctions for non-fulfillment or delay of the implementation of the company's or municipal's waste management programs	30.06.2003	MEW	-	-
5.5.	Strengthening of the control on illegal dumping of waste	permanent	RIEW Municipalities		Municipal budgets, incomes from sanctions
VI.	Construction of new facilities for landfill of waste				
6.1.	Update of the regional development plans in relation to construction and operation of regional facilities for treatment/disposal of waste	30.6.2004	Regional administrations	-	-
6.2.	Construction of e network of regional landfills with capacity allowing disposal of all municipal waste quantity produced in the country	31.12.2009	Municipalities, Regional administrations	Acc.inv.plan	Foreign sources, State budget
6.3.	Construction of National centre for disposal of hazardous waste	31.12.2007	MEW	Acc.inv.plan	Foreign sources, State

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
					budget
6.4.	Construction of new landfills and reconstruction of the existing in accordance to the terms in the approved company's waste management programs and conditioning plans for bringing into compliance with the environmental legislation.	30.06.2003 - 16.07.2009	Operators		Industry, Landfill operators
VII.	Liquidation of past waste damages and illegal dumpsites				
7.1.	Identification of the closed landfills and past waste damages in the country and completion of the missing data in the register of EEA	31.12.2004	Municipalities, RIEW, EEA	-	SEEMA, municipal budgets, Landfill operators
7.2.	Study and assessment of the landfills and past waste damages included in the national register and prioritization into risk levels	30.06.2003 - 31.12.2004	EEA	1500	SEEMA, municipal budgets, Landfill operators
7.3.	Adoption of financially secured plans on municipal and/or regional level for land restoration/remediation of landfills and past waste damages (including update of the municipal programs)	31.12.2004	Municipalities		Municipal budgets, SEEMA
7.4.	Cleaning up of priority sites polluted with waste and land restoration of closed/abandoned landfills for municipal waste	30.06.2003 - 31.12.2007	Municipalities	31 000	State budget, municipal budgets

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
7.5.	Reduction of the risk of paste waste damages including implementation of the programs for elimination of past waste damages (including remediation of landfills) on the privatization of enterprises	permanent -	MEW, Ministry of Finance, Privatization Agency		State budget
7.6.	Establishment of effective control on the implementation of the requirements for closure of landfills operated by the enterprises and the implementation of the related measures included in companies's waste management programs	31.12.2003 – permanent	RIEW		Landfill operators
7.7.	Extension of municipal waste collection schemes and covering all settlements in the country with the purpose of reduction of the number of dumpsites.	31.12.2005	Municipalities		Municipal budgets, State budget
VIII.	Implementation of the requirements for reduction of the quantities biodegradable waste going to landfills				
8.1.	Assignment of a study of the quantities and the composition of the biodegradable waste in the country	30.6.2003	MEW		
8.1.1.	Implementation of the study (15 months)	30.9.2004	MEW, Municipalities	400	SEEMA
8.1.2.	Development of a national strategy for reduction of the quantities of the biodegradable waste going to landfills	31.12.2004	MEW, Ministry of Healthcare, Ministry of Economy		
8.2.	Introduction of the requirements (national standard) for the quality of the compost from waste	30.6.2004	MEW, Ministry of Healthcare, Ministry of	25	

Nº	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
			Agriculture and Forests		
8.3.	Introduction of quantitative targets for recycling of waste on municipal level, by update of the municipal programs and the municipal regulations on the order and conditions for dumping, collection, transferring, disposal and recovery of municipal and construction waste	30.6.2005	Municipalities	-	-
8.4.	Realization of pilot projects for home composting and gradual increase of the covered population (depending on the achieved results)	30.10.2005	Municipalities	Acc.inv.plan	SEEMA, Municipalities
8.5.	Construction of network of regional installations for composting of waste (depending on the results of the operation of the pilot installations)	30.06.2004 - 30.06.2020	Municipalities	Acc.inv.plan	Municipalities, private investments, State budget, SEEMA, foreign investments
8.6.	Introduction of preferences for use of compost in land restoration of old landfills funded by the state	31.3.2005	MEW, Ministry of Economy, Ministry of Finance		
8.7.	Implementation of separate collection schemes for paper and cardboard waste (separately or as apart of the schemes for separate collection of paper packaging waste)	permanent	Municipalities		Municipalities
8.9.	Development and financing of projects for production of briquettes from vegetable or wood waste	30.09.2003- 31.12. 2009	Municipalities	Acc.inv.plan	SEEMA

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
8.10.	Implementation of separate collection schemes for household hazardous waste with the purpose of reducing the content of hazardous substances in municipal waste	permanent	Municipalities, Producers/ importers of products		Producers/importers of products, SEEMA (by product charges)
IX.	Implementation of the requirements for pre-treatment of waste				
9.1.	Development of technical guidelines for treatment of waste prior landfilling	30.06.2004	MEW	35	SEEMA
9.2.	Introduction of prohibition on landfilling of non-treated hazardous waste	01.01.2005	MEW		-
9.3.	Introduction of requirements for pre-treatment of waste during the permitting update of the permits for construction/operation of landfills for waste	permanent	MEW,RIEW	-	-
9.4.	Construction of pilot installations for separation of waste at the regional landfills for municipal waste	2009	Municipalities	Acc. Directive 94/62/EC invest. plan	Private investments, SEEMA
9.5.	Implementation of the measures related to pre-treatment of waste, envisaged in the companies's waste management programs and/or conditioning plans	permanent	Industry, RIEW for control		Industry
D.	FINANCIAL MEASURES				
X.	Funding/reimbursement of the costs				

№	Measure /activity	Final term (start-end)	Responsible institutions	Estimation of the necessary funds [thousand BGN]	Proposed financial sources
10.1.	Increase of the amount of the free subsidies and low interest rated credits granted by the State enterprise for the management of the environmental activities and the State budget for the construction of priority projects for pre-treatment, composting, separate collection and recycling with a view of reducing of the quantities of biodegradable municipal waste	permanent	MEW	-	SEEMA
XI.	Improvement of the effectiveness of spending of money granted by the state, EU and other donors				
11.1.	Providing of financing for technical assistance in design and preparation of the projects for construction of the infrastructure for treatment of municipal waste	30.6.2003	MEW (SEEMA)		SEEMA (credits to the municipalities)
11.2.	Update of the national ISPA strategy in accordance to the priorities in the present plan and the National waste management program.	30.11.2003	MEW, MRDPW, Ministry of Finance		

7. MONITORING OF THE IMPLEMENTATION OF THE PLAN

It is envisaged that the implementation of the program will be monitored continuously. The following stages for the adoption of the reports for the implementation of the plan are proposed according to the governmental coordination scheme for European integration:

- Inter-institutional working group 22 “Environment”;
- Leading team for negotiations
- European Integration Council at the Council of Ministers, chaired by the Prime-Minister.

If it is necessary in the process of accounting of the implementation of the plan measures for update of the plan will be taken.

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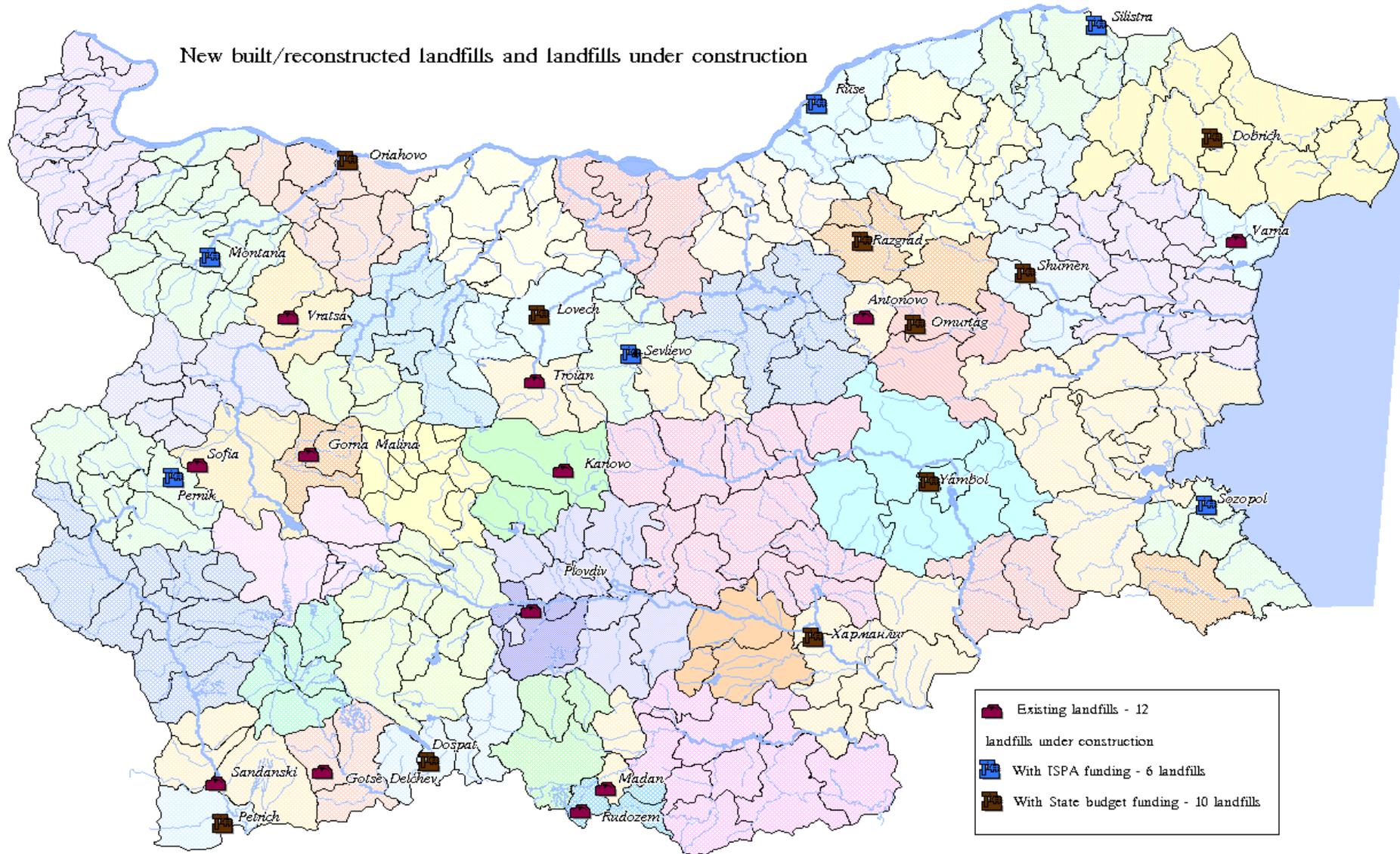
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APPENDIX 1**QUANTITIES LANDFILLED MUNICIPAL WASTE AND NUMBER OF LANDFILLS SERVING WASTE COLLECTION SCHEMES IN 2001 BY REGIONS**

	Region	Number of landfills	Quantity municipal solid waste landfilled	Designed area	Occupied area	Designed capacity	Remaining area	Settlements served by the landfill	Population (permanent) served by the landfills	Average number of inhabitants served by a landfill
		<i>number</i>	<i>tones</i>	<i>decares</i>	<i>decares</i>	<i>m³</i>	<i>m³</i>	<i>number</i>	<i>inhabitants</i>	<i>Inhabitants/landfill</i>
	Total for the state	663	3198308	9562,1	7249,1	62974143	25862470	1377	6360864	9594
01	Blagoevgrad	28	197915	315	287,9	2396171	718568	115	294357	10513
02	Bourgas	19	158092	604,5	408,6	6267666	1362273	72	338527	17817
03	Varna	34	225245	185	283	342990	22176	45	405944	11940
04	Veliko Tarnovo	44	172950	406	317,5	0	0	68	217380	4940
05	Vidin	8	24070	50	46,9	792000	309850	9	72818	9102
06	Vratsa	16	113746	161	123,5	1326315	647035	20	139745	8734
07	Gabrovo	34	66550	262	144	2712700	892182	56	134371	3952
08	Dobrich	8	85123	290	235	276000	225000	12	147193	18399
09	Kardjali	34	32490	70	58	99000	29200	106	103311	3039
10	Kyustendil	10	98835	196,7	155,2	4400	1118	70	145398	14540
11	Lovech	8	68345	171	132	1355000	664901	40	125426	15678
12	Montana	21	30434	258,5	169,5	403015	99523	35	122638	5840
13	Pazardjik	46	147089	262	185	652600	207359	56	250501	5446
14	Pernik	8	149815	203,3	180,3	1932300	585628	37	131443	16430
15	Pleven	47	157642	881,1	461,5	5908532	1690159	54	237467	5052
16	Plovdiv	67	183633	1148,9	1038,6	804300	486301	88	609113	9091

	Region	Number of landfills	Quantity municipal solid waste landfilled	Designed area	Occupied area	Designed capacity	Remaining area	Settlements served by the landfill	Population (permanent) served by the landfills	Average number of inhabitants served by a landfill
		<i>number</i>	<i>tones</i>	<i>decares</i>	<i>decares</i>	<i>m³</i>	<i>m³</i>	<i>number</i>	<i>inhabitants</i>	<i>Inhabitants/landfill</i>
17	Razgrad	10	65386	661	169,3	11053000	6702846	11	75118	7512
18	Ruse	60	85679	321	559	3335700	1630250	60	227073	3785
19	Silistra	4	44854	80	76	0	0	4	59318	14830
20	Sliven	28	59546	179	224	1610000	544000	36	167033	5965
21	Smolyan	17	63084	177,2	57,9	1185003	673315	80	116538	6855
22	Sofia (capital)	1	320868	330	198	2893320	920344	38	1170842	1170842
23	Sofia	20	226872	388	349	2909876	762405	137	239404	11970
24	Stara Zagora	40	138853	1108,7	689,2	4658000	2357450	65	303491	7587
25	Targoviste	5	35679	93,2	60,6	2652960	1456266	7	72817	14563
26	Khaskovo	27	138867	276	219	3206867	1050144	35	217321	8049
27	Shumen	9	62633	294,5	284,1	1393728	175940	11	128969	14330
28	Yambol	10	44013	188,5	136,5	2802700	1648237	10	107308	10731

New built/reconstructed landfills and landfills under construction



LANDFILLS FOR INDUSTRIAL NON-HAZARDOUS WASTE

Table 4.1. Total list of the operating landfills for industrial non-hazardous waste, including for inert waste

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Blagoevgrad	101	slug-pond	"Ilindentsi-mramor"	Blagoevgrad	Strumyani	village of Strumyani
2	Blagoevgrad	102	pond	1. "Ilindentsi-mramor" 2. "Greek-mramor" 3. "Cherkezov", Strumiani	Blagoevgrad	Strumyani	village of Strumyani
3	Blagoevgrad	103	landfill	"Koprivlen-mramor"	Blagoevgrad	Hadjidimovo	village of Koprivlen
4	Blagoevgrad	104	pond landfill	"Pirinhard"	Blagoevgrad	Razlog	Razlog
5	Blagoevgrad	105	lagoon	"Pirinhard"	Blagoevgrad	Razlog	Razlog
6	Blagoevgrad	106	slug-pond	"Strumateks"	Blagoevgrad	Blagoevgrad	Blagoevgrad
7	Blagoevgrad	107	heap	"Pirin-mramor"	Blagoevgrad	Sandanski	village of Katuntsi village of Damianitsa
8	Bourgas	224	landfill	Municipality of Bourgas	Bourgas	Bourgas	Marinka
9	Varna	301	landfill	TEPP "Varna"	Varna	Beloslav	village of Ezerovo
10	Varna	302	landfill	"Terem"	Varna	Beloslav	Beloslav
11	Varna	303	landfill	"Nord" "Devnia Cement" "ViK" "Pristaniste Varna" "Polimeri" "Agropolochim" "Balkanstroj" "Zavodski stroeji" "Rashkov-90" "Burov" "Stroitelstvo I remont" "Solvey Sody"	Varna	Devnya	Village of Padina
12	Varna	305	landfill	"Polimeri"	Varna	Devnya	Devnya
13	Varna	306	slug-pond	"Polimeri"	Varna	Devnya	Devnya
14	Varna	307	landfill	"Agropolichim"	Varna	Devnya	Devnya

No	RIEW	Reg. №	Appellation	Holder	Region	Municipality	Settlement
15	Varna	312	landfill	"ViK" Varna	Varna	Varna	village of Topoli
16	Varna	314	landfill	"ViK" Dobrich	Dobrich	Dobrich	village of Vrachantsi
17	Varna	315	landfill	"Slanchevi lachi"	Varna	Provadya	Provadya
18	Varna	318	ash-slug-pond	"Solvey Sody" "Deven" "Agropolichim"	Varna	Devnya - at the municipality of Varna	village of Padina
19	Varna	319	ashpond	"TEPP Varna"	Varna	Beloslav	village of Ezerovo
20	Veliko Tarnovo	401	landfill	"Svilozha"	Veliko Tarnovo	Svistov	Svistov
21	Veliko Tarnovo	402	landfill	"Zaharni zavodi"	Veliko Tarnovo	Gorna Oriahovitsa	Gorna Oriahovitsa
22	Veliko Tarnovo	405	opencast concrete site	"Petrurgia"	Gabrovo	Triavna	Prachkovtsi
23	Veliko Tarnovo	406	ashpond	"Svilozha"	Veliko Tarnovo	Svistov	Svistov
24	Veliko Tarnovo	407	lagoon -3 cells	"Gamza"	Veliko Tarnovo	Suhindol	Suhindol
25	Veliko Tarnovo	408	ashpond	TEPP at "Zaharni zavodi"	Veliko Tarnovo	Gorna Oriahovitsa	Gorna Oriahovitsa
26	Veliko Tarnovo	409	ashpond	TEPP Toplofikacia"	Gabrovo	Gabrovo	Gabrovo
27	Vratsa	505	slug-pond	"Metizi"	Vratsa	Roman	Roman
28	Vratsa	506	landfill	"Himko"	Vratsa	Vratsa	Vratsa
29	Vratsa	508	landfill	NEPP-Kozloduy	Vratsa	Kozlodui	Kozlodui
30	Montana	601	landfill	1. "Kula Ring" 2. "Spi shoeproducts international"	Vidin	Kula	Kula
31	Montana	602	landfill	"Komplast"	Montana	Berkovitsa	Berkovitsa
32	Montana	603	landfill	"Vidachim v likvidatsia"	Vidin	Vidin	Vidin
33	Montana	604	ashpond	"Vidachim v likvidatsia"	Vidin	Vidin	Vidin
34	Montana	611	slug-pond	"Mramor Berkstone"	Montana	Berkovitsa	Berkovitsa
35	Montana	612	slug-pond	"Monolit"	Montana	Montana	Montana
36	Pazardjik	702	landfill	Paper plant Belovo	Pazardjik	Belovo	village of Dabravite
37	Pazardjik	705	slug-pond	"Chepino"	Pazardjik	Velingrad	village of Draginovo
38	Pazardjik	708	slug-pond	"Mramor I Riolit"	Pazardjik	Bratsigovo	Bratsigovo
39	Pleven	801	landfill (opencast site)	"ZMK Nikopol"	Pleven	Nikopol	village of Cherkvitsa
40	Pleven	802	landfill	"Osam"	Lovech	Lovech	Lovech
41	Plovdiv	902	slug-pond	"Tselhart"	Plovdiv	Stamboliiski	Stamboliiski

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
42	Plovdiv	905	landfill	WWTP	Plovdiv	Sadovo and Rodopi	village of Katunitsa and village of Yagodovo
43	Plovdiv	908	landfill	"Tselhart"	Plovdiv	Stamboliiski	Stamboliiski
44	Plovdiv	910	opencast site	"Chugunoleene invest 97"	Plovdiv	Parvomai	Parvomai
45	Plovdiv	912	landfill	"VMZ"	Plovdiv	Karlovo	Sopot
46	Ruse	1003	tailings-pond	"Khan Asparuh" Isperih	Razgrad	Isperih	Isperih
47	Ruse	1013	ashpond	"Toplofikatsia-Ruse TEPP East"	Ruse	Ruse	Ruse
48	Ruse	1021	ashpond	"Toplofikatsia-Ruse TEPP West"	Ruse	Ruse	Ruse
49	Sofia	1201	heap for solid waste	1. Agloblast plant. Cast-iron production 2. Steel production plant, Converter workshop 3. Steel production plant, Electrooven workshop 4. Ferroalloy plant 5. Plant for metalurgic refractory, Limestone-dolomite production	Sofia	Kremikovtsi	village of Yana
50	Sofia	1206	landfill	Ferroalloy plant	Sofia	Kremikovtsi	village of Yana
51	Sofia	1209	landfill-heap	1. "Chugunoleene" Ihtiman 2. "Kalis" Sofia	Sofia	Ihtiman	Verinsko
52	Sofia	1210	landfill	"Plastchim"	Sofia	Botevgrad	00000
53	Sofia	1219	ash-pond	1. TEPP "Republika" 2. "COF-Pernik" 3. "Kremikovtsi-Rudodobiv"	Pernik	Pernik	Pernik, district "Kalkas"
54	Sofia	1224	ash-pond	1. "Toplofikatsia Pernik" 2. "Solidus" Pernik	Pernik	Pernik	Pernik, district "Kalkas"
55	Sofia	1230	slug pond	"Union Miniere Pirdop Med"	Sofia	Pirdop	Pirdop
56	Sofia	1236	ash-pond	TEPP "Bobov dol"	Kyustendil	Bobov dol	village of Kamenik
57	Sofia	1240	landfill	"Pautalia" village of Kopilovtsi	Kyustendil	Kyustendil	village of Kopilovtsi
58	Sofia	1245	landfill	"Keraming egineering"	Kyustendil	Kyustendil	village of Dragovistitsa
59	Star Zagora	1303	landfill	TEPP "Maritsa East 2"	Stara Zagora	Radnevo	Polski gradets
60	Star Zagora	1304	landfill	"Brikel"	Stara Zagora	Galabovo	

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
61	Star Zagora	1305	landfill	TEPP "Maritsa East 3"	Stara Zagora	Galabovo	Mednikarovo
62	Star Zagora	1307	landfill	"Remoteks Radnevo"	Stara Zagora	Radnevo	
63	Star Zagora	1313	ashpond	"Brikel"	Stara Zagora	Galabovo	Galabovo
64	Star Zagora	1319	ashpond	Toplofikatsia Sliven	Sliven	Sliven	Sliven
65	Khaskovo	1409	old quarry	"Neohim"	Khaskovo	Dimitrovgrad	Dimitrovgrad
66	Khaskovo	1410	landfill	"Neohim"	Khaskovo	Dimitrovgrad	Dimitrovgrad
67	Khaskovo	1414	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad
68	Khaskovo	1415	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad
69	Shumen	1501	pond	"Keramat"	Shumen	Kaspichan	Kaspichan
70	Shumen	1502	pond	"Keramat"	Shumen	Shumen	village of Vetruste
71	Shumen	1503	slug-pond	"Phaians"	Shumen	Kaspichan	Kaspichan
72	Shumen	1505	lagoon	"Vineks Preslav"	Shumen	Veliki Preslav	village of Khan Krum
73	Shumen	1507	landfill	"Kitka"	Shumen	Novi Pazar	village of Pamukchi
74	Vratsa	501	tailings-pond	"Khemus"	Vratsa	Mezdra	Mezdra

Table 4-2. Closed landfills for industrial non-hazardous waste

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Blagoevgrad	108	slug-pond	"Pirinart"	Blagoevgrad	Razlog	Razlog
2	Pleven	808	ashpond	"Balgarska zahar"	Pleven	Dolna Mitropolia	Dolna Mitropolia
3	Ruse	1002	landfill	"Dunarit" Ruse	Ruse	Ruse	Ruse
4	Ruse	1014	ashpond	"Toplofikatsia-Razgrad"	Razgrad	Razgrad	Razgrad
5	Ruse	1020	landfill	"Zahar Bio" Ruse	Ruse	Ruse	Ruse
6	Sofia	1235	ash-pond	TEPP "Bobov dol"	Kyustendil	Bobov dol	village of Palatovo
7	Shumen	1512	landfill	"Phaians"	Shumen	Kaspichan	Kaspichan
8	Stara Zagora	1320	ash-pond	"Agrobiochim"	Stara Zagora	Stara Zagora	Stara Zagora
9	Plovdiv	903	ash-pond	"Tselhart"	Plovdiv	Stamboliiski	Stamboliiski
10	София	1216	tailings-pond	"Union Minier Pirdop Med"	Sofia	Pirdop	Pirdop

Table 4-3. Operating landfills for industrial waste with hydro-transportation of waste

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Blagoevgrad	101	slug-pond	"Ilindentsi-mramor"	Blagoevgrad	Strumyani	village of Strumyani
2	Blagoevgrad	105	lagoon	"Pirinhart"	Blagoevgrad	Razlog	Razlog
3	Blagoevgrad	106	slug-pond	"Strumateks"	Blagoevgrad	Blagoevgrad	Blagoevgrad
4	Varna	306	slug-pond	"Polimeri"	Varna	Devnya	Devnya
5	Varna	318	ash-slug-pond	"Solvey Sody" "Deven" "Agropolichim"	Varna	Devnya - at the municipality of Varna	village of Padina
6	Varna	319	ashpond	"TEPP Varna"	Varna	Beloslav	village of Ezerovo
7	Veliko Tarnovo	402	lagoon	"Zaharni zavodi"	Veliko Tarnovo	Gorna Oriahovitsa	Gorna Oriahovitsa
8	Veliko Tarnovo	406	ashpond	"Sviloza"	Veliko Tarnovo	Svistov	Svistov
9	Veliko Tarnovo	407	lagoon -3 cells	"Gamza"	Veliko Tarnovo	Suhindol	Suhindol
10	Veliko Tarnovo	408	ashpond	TEPP at "Zaharni zavodi"	Veliko Tarnovo	Gorna Oriahovitsa	Gorna Oriahovitsa
11	Veliko Tarnovo	409	ashpond	TEPP Toplofikacia"	Gabrovo	Gabrovo	Gabrovo
12	Vratsa	505	slug-pond	"Metizi"	Vratsa	Roman	Roman
13	Montana	604	ashpond	"Vidachim v likvidatsia"	Vidin	Vidin	Vidin
14	Montana	611	slug-pond	"Mramor Berkstone"	Montana	Berkovitsa	Berkovitsa
15	Montana	612	slug-pond	"Monolit"	Montana	Montana	Montana
16	Pazardjik	705	slug-pond	"Chepino"	Pazardjik	Velingrad	village of Draginovo
17	Pazardjik	708	slug-pond	"Mramor I Riolit"	Pazardjik	Bratsigovo	Bratsigovo
18	Plovdiv	902	slug-pond	"Tselhart"	Plovdiv	Stamboliiski	Stamboliiski
19	Ruse	1003	tailings-pond	"Khan Asparuh" Isperih	Razgrad	Isperih	rp.Isperih
20	Ruse	1013	ashpond	"Toplofikatsia-Ruse TEPP East"	Ruse	Ruse	Ruse
21	Sofia	1219	ash-pond	1. TEPP "Republika" 2."COF-Pernik" 3. "Kremikovtsi-Rudodobiv"	Pernik	Pernik	Pernik, district "Kalkas"
22	Sofia	1224	ash-pond	1. "Toplofikatsia Pernik" 2. "Solidus" Pernik	Pernik	Pernik	Pernik, district "Kalkas"
23	Sofia	1236	ash-pond	TEPP "Bobov dol"	Kyustendil	Bobov dol	village of Kamenik
24	Star Zagora	1313	ashpond	"Brikel"	Stara Zagora	Galabovo	Galabovo
25	Star Zagora	1319	ashpond	Toplofikatsia Sliven	Sliven	Sliven	Sliven
26	Khaskovo	1414	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad
27	Khaskovo	1415	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad
28	Shumen	1505	lagoon	"Vineks Preslav"	Shumen	Veliki Preslav	village of Khan Krum
29	Vratsa	501	tailings-pond	"Khemus"	Vratsa	Mezdra	Mezdra

Table 4-4. Operating landfills for industrial inert waste

No	RIEW	Reg. №	Appellation	Holder	Region	Municipality	Settlement
1	Blagoevgrad	101	slug-pond	"Ilindentsi-mramor"	Blagoevgrad	Strumyani	village of Strumyani
2	Blagoevgrad	102	pond	1. "Ilindentsi-mramor" 2. "Greek-mramor" 3. "Cherkezov", Strumiani	Blagoevgrad	Strumyani	village of Strumyani
3	Blagoevgrad	103	landfill	"Koprivlen-mramor"	Blagoevgrad	Hadjidimovo	village of Koprivlen
4	Blagoevgrad	107	heap	"Pirin-mramor"	Blagoevgrad	Sandanski	village of Katuntsi village of Damianitsa
5	Montana	611	slug-pond	"Mramor Berkstone"	Montana	Berkovitsa	Berkovitsa
6	Montana	612	slug-pond	"Monolit"	Montana	Montana	Montana
7	Pazardjik	705	slug-pond	"Chepino"	Pazardjik	Velingrad	village of Draginovo
8	Pazardjik	708	slug-pond	"Mramor I Riolit"	Pazardjik	Bratsigovo	Bratsigovo
9	Ruse	1003	tailings-pond	"Khan Asparuh" Isperih	Razgrad	Isperih	Isperih
10	Sofia	1240	landfill	"Pautalia" village of Kopilovtsi	Kyustendil	Kyustendil	village of Kopilovtsi
11	Sofia	1245	landfill	"Keraming engineering"	Kyustendil	Kyustendil	village of Dragovistitsa
12	Shumen	1501	pond	"Keramat"	Shumen	Kaspichan	Kaspichan
13	Shumen	1502	pond	"Keramat"	Shumen	Shumen	village of Vetrliste
14	Shumen	1503	slug-pond	"Phaians"	Shumen	Kaspichan	Kaspichan
15	Vratsa	501	tailings-pond	"Khemus"	Vratsa	Mezdra	Mezdra

Table 4-5. Operating landfills for industrial non-hazardous waste for which transitional period is requested

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Varna	306	slug-pond	"Polimeri"	Varna	Devnya	Devnya
2	Varna	318	ash-slug-pond	"Solvey Sody" "Deven" "Agropolichim"	Varna	Devnya - at the municipality of Varna	village of Padina
3	Varna	319	ashpond	"TEPP Varna"	Varna	Beloslav	village of Ezerovo
4	Veliko Tarnovo	406	ashpond	"Svilozha"	Veliko Tarnovo	Svistov	Svistov
5	Veliko Tarnovo	408	ashpond	TEPP at "Zaharni zavodi"	Veliko Tarnovo	Gorna Oriahovitsa	Gorna Oriahovitsa
6	Montana	604	ashpond	"Vidachim v likvidatsia"	Vidin	Vidin	Vidin
7	Ruse	1013	ashpond	"Toplofikatsia-Ruse TEPP East"	Ruse	Ruse	Ruse
8	Sofia	1219	ash-pond	1. TEPP "Republika" 2. "COF-Pernik" 3. "Kremikovtsi-Rudodobiv"	Pernik	Pernik	Pernik, district "Kalkas"
9	Sofia	1224	ash-pond	1. "Toplofikatsia Pernik" 2. "Solidus" Pernik	Pernik	Pernik	Pernik, district "Kalkas"
10	Sofia	1236	ash-pond	TEPP "Bobov dol"	Kyustendil	Bobov dol	village of Kamenik
11	Star Zagora	1313	ashpond	"Brikel"	Stara Zagora	Galabovo	Galabovo
12	Star Zagora	1319	ashpond	Toplofikatsia Sliven	Sliven	Sliven	Sliven
13	Khaskovo	1414	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad
14	Khaskovo	1415	ashpond	"TEPP Maritsa 3"	Khaskovo	Dimitrovgrad	Dimitrovgrad

APPENDIX 5

Table 5-1. Operating landfills for hazardous waste

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Bourgas	222	landfill	"Lukoil-Neftochim"	Bourgas	Bourgas	
2	Bourgas	223	landfill	"Lukoil-Neftochim"	Bourgas	Bourgas	
3	Varna	301	landfill	"TEPP Varna"	Varna	Beloslav	village of Ezerovo
4	Varna	305	landfill	"Polimeri"	Varna	Devnya	Devnya
5	Veliko Tarnovo	404	landfill	"Sevko"	Gabrovo	Sevlievo	Sevlievo
6	Vratsa	505	slug-pond	"Metizi"	Vratsa	Roman	Roman
7	Vratsa	506	landfill	"Himko"	Vratsa	Vratsa	Vratsa
8	Pleven	804	landfill /opencast site/	Nova Plama	Pleven	Pleven	village of Yasen
9	Plovdiv	901	landfill	1."Tselhart" 2. "Vitamina"	Plovdiv	Stamboliiski	Stamboliiski
10	Plovdiv	904	landfill	"KCM"	Plovdiv	Sadovo	village of Katunitsa
11	Ruse	1001	landfill	"Balkanpharma" Razgrad	Razgrad	Razgrad	village of Nedoklan
12	Sofia	1203	ashpond	1. Heat energy production 2.Coke-chemical plant 3.Aggloblast plant 4.Steel production plant, Convertor workshop 5.Steel production plant, Electro workshop 6.Plant for cool stretching	Sofia	Kremikovtsi	between village of Dolni Bogrov, village of Gorni Bogrov and village of Musachevo
13	Sofia	1204	heap of Kremikovtsi mine	circulating water supply extraction and rolling shops	Sofia	Kremikovtsi	district of Kremikovtsi
14	Sofia	1214	landfill	"Union Miniere Pirdop Med"	Sofia	Pirdop	Pirdop
15	Sofia	1215	landfill	"Union Miniere Pirdop Med"	Sofia	Zlatitsa	Zlatitsa
16	Star Zagora	1302	landfill	"Ymbolen"	Yambol	Tundja	village of Bezmer
17	Khaskovo	1407	lagoon	"Neohim"	Khaskovo	Dimitrovgrad	Dimitrovgrad
18	Sofia	1205	landfill	Kremikovtsi	Sofia	Kremikovtsi	Kremikovtsi

Table 5-2. Closed landfills for hazardous waste

No	RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
1	Vratsa	504	landfill	"Beloizvorski cement"	Vratsa	Vratsa	village of Beli Izvor
2	Pazardjik	713	ashpond	"Elchim Iskra"	Pazardjik	Pazardjik	Pazardjik
3	Plovdiv	907	landfill	"KCM"	Plovdiv	Rodopi	village of Katunitsa
4	Ruse	1004	landfill	"Roca CO" Razgrad "Diamant" Razgrad	Razgrad	Razgrad	Razgrad
5	Sofia	1220	landfill-heap	"Evrometal" Pernik	Pernik	Pernik	Pernik, district "Kalkas"
6	Sofia	1223	landfill	"Union Miniere Pirdop Med"	Sofia	Zlatitsa	Zlatitsa
7	Sofia	1231	slug-pond	"Union Miniere Pirdop Med"	Sofia	Zlatitsa	Zlatitsa
8	Sofia	1232	landfill-pits	"Sopharma"	Sofia	Sofia, Nadejda	district of Svoboda
9	Sofia	1244	opencast landfill	"Radomir leko Co"	Pernik	Radomir	village of Stefanovo
10	Khaskovo	1404	landfill	"Vulakn"	Khaskovo	Dimitrovgrad	Dimitrovgrad
11	Khaskovo	1406	landfill	"Neohim"	Khaskovo	Dimitrovgrad	Dimitrovgrad
12	Khaskovo	1408	landfill/pond	"Neohim"	Khaskovo	Dimitrovgrad	Dimitrovgrad
13	Shumen	1511	pond	"HZ Smiadovo" - branch of Bulmat	Shumen	Smiadovo	Smiadovo

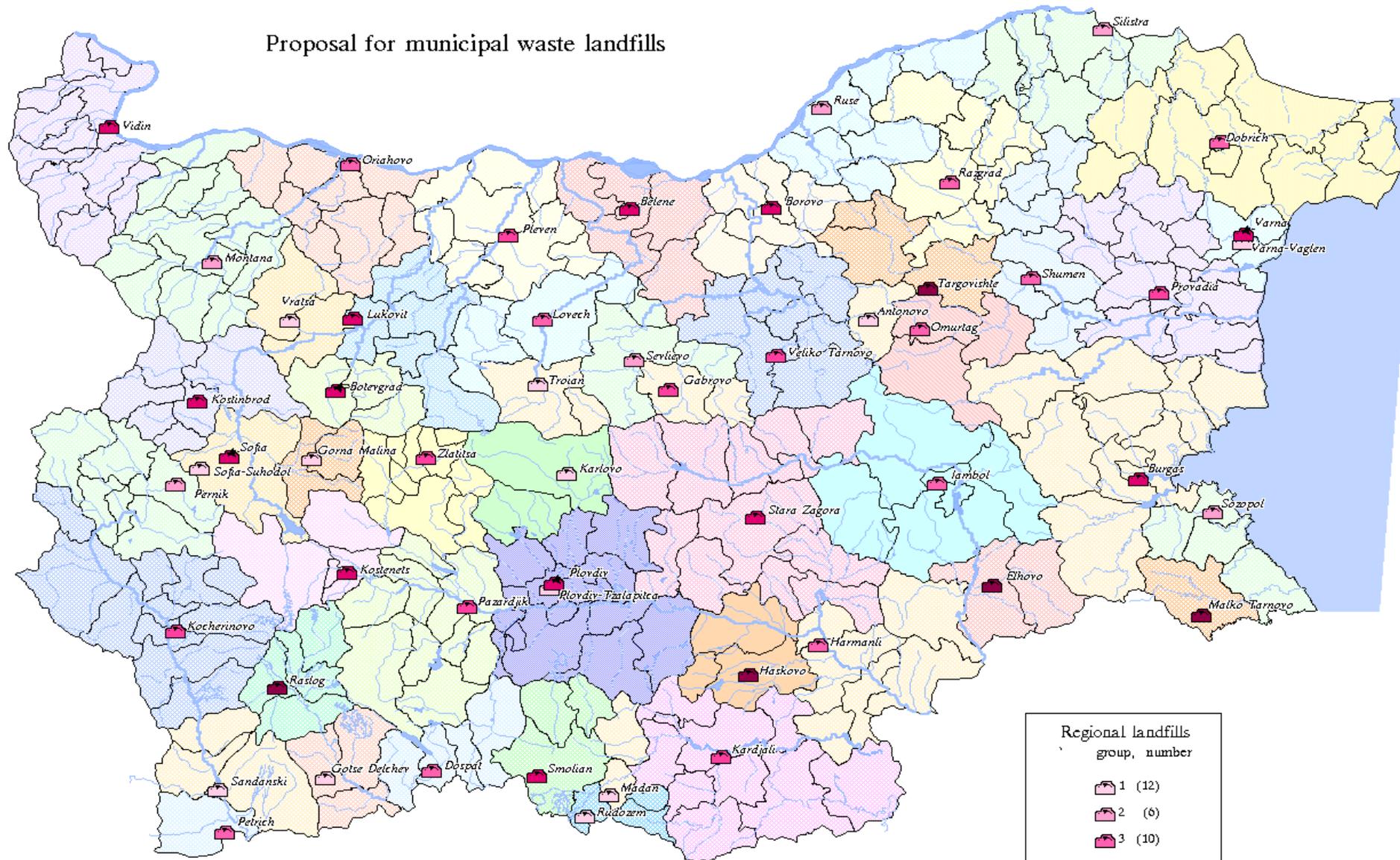
APPENDIX 6

Total list of the facilities for disposal of mining waste

RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
Bourgas	201	tailings- pond	Bourgas copper mine	Bourgas	Sozopol	village of Atia
Bourgas	202	tailings- pond	Bourgas copper mine	Bourgas	Sozopol	village of Atia
Bourgas	203	tailings- pond	Bourgas copper mine	Bourgas	Sozopol	village of Atia
Bourgas	204	tailings- pond	Bourgas copper mine	Bourgas	Sozopol	village of Atia
Bourgas	205	tailings- pond	Bourgas copper mine	Bourgas	Malko Tarnovo	Malko Tarnovo
Bourgas	206	tailings- pond	Bourgas copper mine	Bourgas	Malko Tarnovo	Malko Tarnovo
Bourgas	209	tailings- pond	Bourgas copper mine	Bourgas	Bourgas	Varli briag
Bourgas	210	tailings- pond	Bourgas copper mine	Bourgas	Bourgas	Varli briag
Bourgas	217	landfill	"Lawrence Martin - Zidarovo"	Bourgas	Sozopol	Zidarovo
Varna	313	heap	"Evromangan"	Dobrich	Dobrich	village of Odartsi
Vratsa	507	tailings-pond	"Eliseyna"	Vratsa	Mezdra	village of Eliseina
Montana	605	tailings-pond	"Chiprovets"	Montana	Chiprovts	Chiprovts
Montana	606	tailings-pond	"Chiprovets"	Montana	Chiprovts	Chiprovts
Montana	607	tailings-pond	"Chiprovets"	Montana	Chiprovts	village of Martinovo
Pazardjik	701	tailings-pond	"Asarel Medet"	Pazardjik	Panagyriste	village of Oboriste
Pazardjik	706	oxide pond	"Asarel Medet"	Pazardjik	Panagyriste	Panagyriste
Pazardjik	707	heap	"Asarel Medet"	Pazardjik	Panagyriste	Panagyriste
Pazardjik	709	tailings-pond	"Asarel Medet"	Sofia	Zlatitsa and Pirdo	village of Dushantsi
Pazardjik	710	tailings-pond	"Panagyurski mini"	Pazardjik	Panagyriste	village of Elshitsa
Pazardjik	711	tailings-pond	"Panagyurski mini"	Pazardjik	Pazardjik	village of Elshitsa
Pazardjik	712	tailings-pond	"Panagyurski mini"	Pazardjik	Pazardjik	village of Popintsi
Smolian	1101	tailings-pond	"Gorubso ROF" Rudozem	Smolian	Rudozem	Rudozem
Smolian	1102	tailings-pond	Gorubso Lucky	Plovdiv	Lucky	Lucky/Borovo
Sofia	1202	tailings-pond	1. Agloblast plant. 2. ore-treatment plant	Sofia	Kremikovtsi	district Chelopechene
Sofia	1207	tailings-pond	"Elatsite med"	Sofia	village of Chavdar	village of Chavdar
Sofia	1208	tailings-pond	1. "Bimak" 2. "Navan-Chelopech"	Sofia	village of Chelopech	village of Chavdar
Sofia	1217	tailings-pond	OF "Gyueshevo"	Kyustendil	Kyustendil	village of Prekolnitsa
Sofia	1225	tailings-pond	OF "Gyueshevo"	Kyustendil	Kyustendil	village of Gyueshevo

RIEW	Reg. №	Appelation	Holder	Region	Municipality	Settlement
Sofia	1226	tailings-pond	"Elatsite med"	Sofia	Mirkovo	village of Benkovski
Sofia	1234	tailings-pond	OF "Gyueshevo"	Kyustendil	Kyustendil	village of Gyueshevo
Star Zagora	1306	tailings-pond	"Ustrem" "Ustrem2"	Khaskovo	Topolovgrad	Ustrem
Khaskovo	1403	tailings-pond	"Gorubso" washery	Khaskovo	Kardjali	Kardjali
Smolian	1109	tailings pond	"Gorubso-Zlatograd"	Smolian	Zlatograd	village of Erma reka

Proposal for municipal waste landfills



Regional landfills	
group	number
1	(12)
2	(6)
3	(10)
4	(8)
5	(13)
6	(5)

Appendix 9

Composting plant costs model

Expenditures	Investments	Redeem term	Interest	Annual costs	Specific costs	Maintenance	Costs for maintenance	Specific costs
	levs	year	%	levs per year	levs per tone	%	levs per year	levs per tone
Preliminary work - studies, design, obtaining of permits	300 000	20	7	28 318	1,42			
Expenditures for acquisition of the land	100 000	20	7	9 439	0,47			
Construction works								
Concrete works	1 100 000	20	7	103 832	5,19	1	11 000,00	0,55
Industrial buildings	1 150 000	20	7	108 552	5,43	1	11 500,00	0,58
Reservoir(s)	40 000	20	7	3 776	0,19	1	400,00	0,02
Bio-filter	232 000	5	7	56 583	2,83	2	4 640,00	0,23
Weighbridge	60 000	10	7	8 543	0,43	2	1 200,00	0,06
Offices	150 000	10	7	21 357	1,07	2	3 000,00	0,15
Subsidiary buildings, supply, communications	580 000	10	7	82 579	4,13	5	29 000,00	1,45
Walls, fences	100 000	20	7	9 439	0,47	1	1 000,00	0,05
Unforeseen 8%	272 960							
Total	3 684 960			394 660	19,73		61 740,00	3,09

Equipment	Investments	Redeem term	Interest	Annual costs	Specific costs
Shredder	300 000	7	7	55 666	2,78
Rotary mixer	200 000	7	7	37 111	1,86
Turning machine	500 000	7	7	92 777	4,64
Sieves	200 000	7	7	37 111	1,86
Eddy current separator	200 000	7	7	37 111	1,86
Loader	320 000	7	7	59 377	2,97
Dumper	60 000	7	7	11 133	0,56
Ventilation system, fans	500 000	7	7	92 777	4,64
Total	2 280 000			423 061	21,15
Initial investments	6 364 960				

Variable costs	Quantity	Unit	Price per unit	Annual costs	Specific costs
Salaries for the staff					
Manager	1	levs per month	600	7 200	0,36
Accountant	1	levs per month	500	6 000	0,30
Workers	6	levs per month	400	28 800	1,44
social insurance	31	%		12 894	0,64
Total staff costs				54 894	2,74
Fuels	80000	liters	1,25	100 000	5,00
Energy	944813	kWh	0,12	113 378	5,67
Analyses				50 000	2,50
Disposal of the residues	1000	tons	40	40 000	2,00
Total				358 272	17,91

Total				1 275 490	63,77
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Incomes	Quantity	Measure	Price per unit	Annual costs	Specific costs
Charge for the acceptance of the waste			levs	levs per year	levs per tone
food waste	12000	tones	60,00	720 000	36,00
garden waste	8000	tones	50,00	400 000	20,00
<i>Calculated as difference</i>		Total		1 120 000	56,00
Sale of compost					
8000 tpy=16000 cu.m.					
in agriculture	3000	m ³	5	15 000	0,75
in gardening, land cultivation, parks	11000	m ³	5	55 000	2,75
for pot (preliminary packed)	2000	m ³	45	90 000	4,50
		Total		160 000	8,00
Total incomes:				1 280 000	64,00

Table 10-1 Investments planned for Regional Landfills-group I

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, <i>tons</i> <i>per year</i>	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. <i>thous.</i> BGN
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7 664	Antonovo	1	1 237					112	221	2 632					249	137	3 349
58 935	Goce Delchev	1	13 825						132	560	4 125					943	5 760
31 126	Gorna Malina	1	6 944					122	421	3 644					664	331	5 181
86 872	Karlovo	1	24 783						151	922	5 221			1 690	812		8 796
13 874	Madan	1	3 432						118	431	3 297					692	4 538
448 872	Plovdiv-Tzalapitca	1	131 722	3000	1 500	1 500											6 000
33 770	Rudozem	1	8 588							125	496	3 876					4 497
56 568	Sandanski	1	15 341					134	610	4 277					1 046	511	6 578
1 173 811	Sofia-Suhodol	1	376 609	1 000	1 000												2 000
41 650	Troian	1	11 654					128	488	3 905					795	393	5 709
341 492	Varna -Vaglen	1	107 856	703	1 000	1 000											2 703
111 998	Vraca	1	31 405	800	400				161	881	5 291				1 591	766	9 889

Table 10-2 Investments planned for Regional Landfills-group II

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, <i>tons</i> <i>per year</i>	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. <i>thous.</i> BGN	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
182 506	Montana	2	50 262	2 218	5 545	3 327								731		2 182	14 002	
150 318	Pernik	2	41 641	2 562	6 405	3 843								729	2 209	1 056	16 804	
250 370	Rouse	2	72 498	2 934	7 334	4 401								731		2 930	18 329	
58 800	Sevlievo	2	15 567	2 347	5 867	3 520								729		1 062	13 526	
123 462	Silistra	2	32 270	2 867	7 168	4 301								729		1 593	16 658	
28 825	Sozopol	2	6 517	2 655	6 637	3 982								727		622	14 623	

Table 10-3 Investments planned for Regional Landfills-group III

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, <i>tons</i> <i>per year</i>	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. <i>thous.</i> BGN
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	1
224 202	Dobrich	3	60 082	1 000	1 390	6 991					2 608	1 242		731	2 608	1 242	17 812
47 540	Dospat	3	9 592	669	4 017						916	449		727		916	7 694
93 028	Harmanli	3	26 196	937	4 997						1 390	671		729		1 390	10 114
76 954	Lovech	3	22 851	600	858	5 028					1 559	751		729		1 559	11 083
58 769	Omurtag	3	13 756	132	557	4 117					938	460		729		938	7 872
125 505	Oriahovo	3	32 550	800	947	5 490					1 727	829		729		1 727	12 249
58 086	Petrich	3	16 130	800							1 100	536		729		1 100	4 265
144 574	Razgrad	3	36 607	600	1 052	3 000	2 804					1 942	930		729		11 058
186 716	Shoumen	3	49 961	1200	1 399	6 835						2 651	1 262		729		14 076
313 605	Yambol	3	86 276	300	1 483	4 500	3 502					2 746	1 307		1 357		15 196

Table 10-4 Investments planned for Regional Landfills-group IV

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, <i>tons</i> <i>per year</i>	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. <i>thous.</i> BGN
				28	29	30	31	32	33	34	35	36	37	38	39	40	1
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	1
89 688	Gabrovo	4	27 250		156	810	5 079					1 446	698		729		8 918
179 021	Kardjali	4	42 088		180	1 195	6 228					2 233	1 067		729		11 631
258 028	Kocherinovo	4	72 865		222	1 664	7 796					3 163	1 503		731		15 078
276 895	Pazardjik	4	76 756		219	1 331	7 561					2 443	1 165		1 357		14 077
225 453	Pleven	4	61 326			205	1 417	7 069					2 662	1 268		731	13 351
123 520	Provadia	4	29 359		160	864	5 243					1 558	750		729		9 304
193 065	Veliko Tarnovo	4	55 025		163	918	5 402					1 666	801		729		9 679
63 017	Zlatica	4	17 248		138	673	4 468					1 176	571		729		7 755

Table 10-5 Investments planned for Regional Landfills-group V

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, tons per year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. thous. BGN
				28	29	30	31	32	33	34	35	36	37	38	39	40	1
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	1
131 751	Belene	5	34 765			168	1 005	5 662					1 844	885		729	10 292
71 761	Borovo	5	15 775			135	624	4 320					1 076	524		729	7 408
58 991	Botevgrad	5	17 685			138	687	4 512					1 206	585		729	7 858
392 627	Bourgas	5	109 846				265	1 860	9 091					3 497	1 659		16 372
81 849	Kostenec	5	24 843			151	924	5 227					1 695	814		729	9 539
75 063	Kostinbrod	5	19 833			142	758	4 727					1 353	654		729	8 363
96 616	Lukovit	5	24 554			150	914	5 198					1 675	805		729	9 471
630 992	Plovdiv	5	185 165				359	2 605	11 137					4 912	2 322	1 359	22 694
67 623	Smolian	5	18 786			140	724	4 622					1 281	621		729	8 117
1 173 811	Sofia	5	376 609			614	5 192	18 446					9 990	4 703		1 359	40 304
387 847	Stara Zagora	5	106 531		260	1 807	8 938					3 391	1 610		1 359		17 365
341 492	Varna	5	107 856			262	1 828	9 000						3 433	1 629		16 153
131 215	Vidin	5	33 280			166	966	5 547					1 766	848		729	10 021

Table 10-6 Investments planned for Regional Landfills-group VI

Popula- tion	Investment name	Priority group	Average amount of Municipal waste, <i>tons</i> <i>per year</i>	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. <i>thous.</i> BGN
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	1
26 261	Elhovo	6	6 480				121	400	3 577					619	310		5 026
171 976	Haskovo	6	50 137					188	1 177	6 363					2 176	1 040	10 944
4 576	Malko Tarnovo	6	739				110	173	2 477					149	90		3 000
57 109	Razlog	6	15 489					135	615	4 292					1 057	515	6 613
97 777	Targovishte	6	27 466				157	815	5 096					1 457	703		8 228

Evaluation of the investments required for the implementation of Directive 1999/31/EC

No	Investment name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period. thous. BGN
		28	29	30	31	32	33	34	35	36	37	38	39	40	1
1	2	6	7	8	9	10	11	12	13	14	15	16	17	18	19
I	Construction of regional landfills for MSW	28 124	61 056	73 369	73 072	81 000	35 471	28 030	28 668	33 230	36 212	36 941	29 827	32 924	577 923
II	Closure of existing landfills														
	Relative share	2%	3%	4%	5%	6%	12%	12%	12%	6%	6%	6%	8%	6%	88%
	Annual costs for closure of old landfills	3 442	5 163	6 885	8 606	10 327	20 654	20 654	20 654	10 327	10 327	10 327	13 769	10 327	151 462
III	Liquidation of abandoned waste dumpsites														
	Relative share		10%	10%	15%	20%	25%	20%							100%
	Annual costs for closure of old landfills		3 500	3 500	5 250	7 000	8 750	7 000							35000
			10%	20%	35%	55%	80%	100%							
IV	Treatment of biodegradable MSW in composting plants		6 365	6 365	6 365			12 730	6 365	12 730	15 242	17 754	12 730	6 365	103 010
V	Construction of National centre for treatment of hazardous waste														
	Investments			5 991	3 994										9 985
VI	Past environmental damages with hazardous waste	15 000	13 000	11 000	9 000	6 000	2 000								56 000
	TOTAL INVESTMENTS	46 566	89 085	107 109	106 287	104 327	66 875	68 414	55 687	56 287	61 781	65 022	56 326	49 616	933 380

Prognosis for the financial sources for the implementation of Directive 1999/31/EC

Appendix 12

Indicator	measure	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total for the period
Population	inhabitants	7785091	7740829	7696568	7652307	7608045	7563784	7519522	7475261	7437373	7399484	7361596	7323708	7285820	
GDP	mIn.BGN	35 287	38 431	41 797	44 848	48 211	51 827	55 714	59 893	63 486	67 295	71 333	75 613	80 150	
GDP growth	%	4,72	5,41	5,26	4,30	4,50	4,50	4,50	4,50	3,50	3,50	3,50	3,50	3,50	
Inflation	%	3,5%	3,5%	3,5%	3,0%	3,0%	3,0%	3,0%	3,0%	2,5%	2,5%	2,5%	2,5%	2,5%	
Average income for social security payments purposes	BGN	282	305	328	351	374	398	429	462	494	526	559	595	634	
Annual increase of real income	%	5,36	4,53	3,95	3,94	3,66	3,35	4,91	4,76	4,42	3,88	3,86	3,78	4,09	
ISPA Cohesion funds maximum for the environment	mIn.EURO	52	85	102	118	260	268	276	284	293	301	310	320	329	
ISPA Cohesion funds maximum for the environment	mIn. BGN	102	166	199	231	508	523	539	555	572	589	607	625	644	
ISPA-Cohesion funds spend for exhausted landfills and composting installations	mIn.EURO	13	25	29	23	20	8	9	7	8	10	10	7	6	175
ISPA-Cohesion funds spend for exhausted landfills and composting installations	mIn.BGN	26	49	56	45	39	16	17	14	16	19	20	14	11	343
National funding	mIn.EURO	11	21	26	31	34	26	26	21	20	22	23	22	20	302
National funding	mIn. BGN	21	40	51	61	66	51	51	42	40	43	45	42	38	591
State Budget co-financing of ISPA projects	mIn.EURO	4	11	15	19	20	8	9	7	8	10	10	7	6	135
State Budget co-financing of ISPA projects	mIn. BGN	9	21	30	37	39	16	17	14	16	19	20	14	11	263
State Budget direct financing of projects-construction of waste landfills, composting installations, old environmental damages	mIn.EURO	4	4	5	5	5	5	6	6	6	6	6	7	7	72

State Budget direct financing of projects-construction of waste landfills, composting installations, old environmental damages	mln. BGN	8	9	9	9	10	10	11	11	12	12	13	13	13	141
State enterprise for management of environmental protection activities	mln.EURO	2	2	2	2	2	2	2	2	2	2	2	2	3	26
State enterprise for management of environmental protection activities	mln. BGN	3	3	3	3	4	4	4	4	4	4	5	5	5	51
Municipal Budgets	mln.EURO	0	3	4	5	6	10	9	5	3	3	3	4	3	56
Municipal Budgets	mln. BGN	1	6	7	10	12	19	17	10	5	5	5	7	5	110
Private investments	mln.EURO		1	1	1	1	1	1	1	1	1	1	2	2	13
Private investments	mln. BGN		1	1	1	2	2	2	2	2	3	3	3	3	26
Percentage of GDP under National funding	%	0,06	0,10	0,12	0,14	0,14	0,10	0,09	0,07	0,06	0,06	0,06	0,06	0,05	
Total expenditures for waste management procedures	mln.EURO	24	46	55	54	53	34	35	28	29	32	33	29	25	478
Total expenditures for waste management procedures	mln. BGN	47	89	107	106	104	67	68	56	56	62	65	56	50	933
Total expenditures for waste management procedures	mln.EURO	24	69	124	179	232	266	301	330	359	390	423	452	478	
Total expenditures for waste management procedures	mln. BGN	47	136	243	349	453	520	589	644	701	762	827	884	933	