



ЕВРОПЕЙСКИ СЪЮЗ
Европейски фонд за
регионално развитие

ОПЕРАТИВНА ПРОГРАМА
"ОКОЛНА СРЕДА 2007 - 2013 Г."



Решения за
ПО-ДОБЪР ЖИВОТ

This document was developed with financial support from the European Regional Development Fund through the Operational Program „Environment 2007- 2013”

MINISTRY OF ENVIRONMENT AND WATER NATIONAL WASTE MANAGEMENT PLAN

2014-2020



September 2014

Sofia

CONTENT

I. INTRODUCTION	5
II. Basic conclusions from the analysis of the status of waste management	17
III. SWOT analysis of “Waste” Sector.....	35
IV. Objectives of NWMP 2014-2020 and programs for their achievement	38
National waste prevention programme.....	49
Programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass	89
Programme to achieve the objectives and requirements for biodegradable waste including bio-waste	98
<i>Objective of limiting the quantity of landfilled biodegradable waste.....</i>	99
<i>Targets for separate collection and recycling of biowaste.....</i>	99
Programme to achieve the targets for recycling and recovery of construction waste and waste from demolition.....	108
Programme to achieve the targets for recycling and recovery of widespread waste.....	117
At the time of elaborating the National Waste Management Plan (NWMP) 2014-2020, under the national law, annual targets for recycling and recovery of six groups of widespread waste have been set:.....	118
Programme to improve the management hierarchy of other waste streams and to reduce the risk to the environment from landfills	127
Programme to improve the capacity of waste management institutions	139
Programme to improve the quality of information that helps make informed management decisions	151
Programme to improve awareness and participation of the population and business in waste management activities	157
V. Coordination with other plans and programmes.....	163
VI. System for monitoring the implementation of the National Waste Management Plan (NWMP) 2014-2020.....	169
VII. Appendixes	174
APPENDIX 1	175
APPENDIX 2	177
APPENDIX 3	181
APPENDIX 4	183
APPENDIX 5	186
APPENDIX 6	189
APPENDIX 7	191
APPENDIX 8	193
APPENDIX 9	196

ABBREVIATIONS

ASFİ	Agency for State Financial Inspection
BAMEE	Bulgarian association of municipal environment experts
CDW	Construction and demolition waste
CJ	Court of Justice
CM	Council of Ministers
DG	Directorate General
EC	European Commission
EEA	Executive Environment Agency
ELV	End of Life Vehicles
EMEPA	Enterprise for Management of Environment Protection Activities
EPA	Environment protection act
EU	European Union
FS	Feasibility study
GDP	Gross Domestic Product
IT	Information technologies
LLTF	Law on Local Taxes and Fees
LSP	Law on Spatial Planning
MAF	Ministry of Agriculture and Food
ME	Ministry of Energy
MES	Ministry of Education and Science
MF	Ministry of Finance
MLSP	Ministry of Labor and Social Policy
MOE	Ministry of Economy
MOEW	Ministry of Environment and Water
MRDPW	Ministry of Regional Development and Public Works
MTITC	Ministry of Transport, Information Technologies and Communications
MP	Master plan
NAMRB	National Association of Municipalities in the Republic of Bulgaria
NSI	National Statistical Institute
NSRD	National Strategy for Regional Development
NWMP	National waste management plan
NWPP	National waste prevention programme
OPE	Operational Programme "Environment"
PCTs	Polychlorinated terphenyls

PHBs	Polychlorinated biphenyls
POPs	Persistent organic pollutants
PRD	Programme for Rural Development
RCM	Recycled construction materials
RIEW	Regional Inspectorates for Environmental and Water
RWMA	Regional waste management association
SACEWR	State Commission for Energy and Water Regulation
SAMTS	State Agency for Metrology and Technical Surveillance
SMEs	Small and medium enterprises
TFP	Transitional and Final Provisions
WABA	Waste automotive batteries and accumulators
WBA	Waste batteries and accumulators
WEEE	Waste electrical and electronic equipment
WF	Waste fee
WFD	Waste Framework Directive
WIBA	Waste industrial batteries and accumulators
WMA	Waste management act
WP	Waste prevention
WPBA	Waste portable batteries and accumulators
WSW	Widespread waste
WT	Waste tires
WWTP	Waste water treatment plant

I. INTRODUCTION



The National Waste Management Plan (NWMP) plays a key role in achieving a resource-efficient and sustainable waste management, as the analysis of the current situation shows that in Bulgaria there is significant potential to improve waste prevention and its management, better use of resources, development of new markets and new jobs, as at the same time reduce the harmful effects of waste on the environment

NWMP is based on the following principles:

- *Prevention* - waste should be reduced and avoided where it is possible.
- *"Extended producer responsibility" and "polluter pays"* - those who produce or contribute to waste generation or pollute the environment or current waste holders must cover the full costs for waste treatment and should manage them in a way that ensures high level of protection of the environment and human healthcare.
- "Precaution" - potential waste problems should be foreseen and avoided at the earliest possible stage.
- *"Self-sufficiency and proximity"* – waste should be disposed as near as possible to the place of their generation as waste generated in the EU should be treated within the union.
- *„Public participation“* – relevant stakeholders and authorities as the general public have the opportunity to participate in the development of waste management plans and waste prevention programs and have access to them after their development.

Bulgaria has developed a National waste prevention programme (NWPP) in accordance with the requirements of the WFD and Article 50 of the Waste Management Act for the first time. NWPP is an integral part of NWMP and identifies measures for implementation of the highest level in the waste management hierarchy.

The fourth NWMP is the transition from waste management to the efficient use of waste as resources and sustainable development by prevention of their generation, as far as possible. Successful implementation of the plan will lead to the prevention and reduction of the harmful effects of waste on the environment and human health and reduce the use of primary natural resources.

The plan supports the central and local authorities to concentrate limited financial resources from national and EU sources on priority projects in the field of waste management.

Geographic, demographic and socio-economic characteristics of Republic of Bulgaria

- Territory: 110.9 thousand square kilometers
- Population to 31.12.2012: 7 284 552 people
- Average population density to 31.12.2012: 65.6 people / sq. km.
- Urban population to 31.12.2012: 5 307 868 people (72.9% of the total population)
- GDP per capita to 31.12.2012: 10.4 thousand
- Administrative areas: 28
- Municipalities: 264.
- From 1.01.2007 Bulgaria is a member of the European Union



Basis and approach for NWMP development

NWMP is developed in accordance with Art. 28 of WFD and Art. 49 of WMA. During the development of NWMP are taken into account legal requirements and a number of European and national programs and methodological documents, including:

- Roadmap of Resource Efficient in Europe¹
- General Union Environment Action Programme to 2020 “Living well, within the limits of our planet”²
- Green Paper on a European Strategy on plastic waste in the environment³

¹COM(2011) 571 final

²DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 November 2013 on a General Union Environment Action Programme to 2020 “LIVING WELL, WITHIN THE LIMITS OF OUR PLANET”

- Europe 2020: National Reform Programme 2012-2020 and the Council Recommendation on the National Reform Programme⁴
- Methodological guidance note of European Commission, Environment DG: „Preparing a Waste Management Plan“, 2012
- Methodology for strategic planning in Republic of Bulgaria, April 2010, Council for Administrative Reform
- The approach of NWMP developing is consistent with the requirement such a document to be easily understandable by non-specialists and the general public and also to provide an opportunity for narrow specialists to gain more detailed information by annexes to the main text of the analytical part.

NWMP content

NWMP has the following structure and content, according to the presented approach of development:

Basic document that contains:

- Key conclusions from the analysis of the state of waste management
- SWOT analysis (analysis of strengths and weaknesses, opportunities and threats)
- Objectives and sub objectives
- Action plan with Programmes with measures to achieve the objectives:

National waste prevention programme

Programme to achieve the objectives for preparing of re-use and recycle of municipal paper, metal, plastic and glass waste

Programme to achieve the objectives of biodegradable waste, including bio-waste

Programme to achieve the targets for recycling and recovery of construction and demolition waste

Programme to achieve the targets for recycling and recovery of widespread waste

Programme to improve the management hierarchy of other waste streams and reduce the risk to the environment from landfills for municipal waste

Programme to improve the capacity of institutions for waste management

Programme to improve the quality of information helping to make informed management decisions

Programme to improve awareness and participation of the population and business in waste management activities

- Coordination with other plans and programs

³Brussels, Green Paper on a European Strategy on plastic waste in the environment, 2014

⁴ Documents can be found on the website of the Ministry of Finance: www.minfin.bg/document/10621

- System for monitoring of implementation, evaluation of results, reports and update of NWMP
- Annexes in which are presented:
 - Detailed analyzes of waste management
 - Tables, charts and graphs
 - Forecasts

Geographical coverage

NWMP and NWPP as an integral part shall apply to the whole territory of Republic of Bulgaria. In addition, NWMP provides a framework for local authorities in the development of policy for waste management activities at regional and local level. Waste Management Act requires local authorities to coordinate programs for municipal waste management with NWMP and NWPP and encourages municipalities to develop regional plans for waste management in the territorial scope of the regional waste management associations (RWMA) defined by NWMP 2009-2013.

Timing

NWMP and NWPP as an integral part of it are developed for period 2014-2020. The plan deadline coincides with the period of programming and use of EU structural and investment funds for the period 2014-2020 and the deadline of the "Europe 2020: National Reform Programme". The period meets the requirements of the Waste Management Act, under which NWMP should be prepared for at least 6 years

Waste streams within the NWMP

NWMP includes waste that is within the scope of the WFD, respectively WMA:

- municipal waste
- industrial waste
- construction waste
- hazardous waste

Wastes streams that are outside the scope of NWMP, respectively WFD and WMA, are presented in Annex No. 1 to the Plan.

Key objectives

NWMP is in fully consistent with the main objectives of EU environmental law in the "Waste" sector and contains key objectives for the achievement of which NWMO and NWPP provided programs with measures.

Key objectives in the "Waste" sector for Bulgaria

Waste streams	Year	Objective		
		Recovery	Recycling	Collection
Packaging waste	Annually for each year of NWMP	Not less than 60% by weight of packaging waste must be recovered or incinerated in waste incinerators with energy recovery	Not less than 55% and not more than 80% by weight of the packaging waste must be recycled, as recycling should be not less than: a) 60 % by weight of glass packaging waste; b) 60 % by weight of paper and cardboard packaging waste; c) 50 % by weight of metal packaging waste; d) 22,5 % by weight of packaging waste plastic in which recycling is obtained only plastic; e) 15 % the weight of the wood packaging waste.	Systems for separate collection of packaging waste cover not less than 6 million inhabitants of the country and must include resort towns and all cities with a population over 5000 inhabitants.
Waste electrical and electronic equipment (WEEE)		Recovery of not less than:	Preparation for reuse and recycling of not less than:	Separate collection of WEEE in a total amount which is equal to not less than:
	2014	- 80 % for WEEE falling under categories 1 and 10 of Annex № 1; - 75 % for WEEE falling under categories 3 and 4 of Annex № 1; - 70 % for WEEE falling under categories 2, 5, 6, 7, 8 and 9 of Annex № 1.	- 75 % for WEEE falling under categories 1 and 10 of Annex № 1; - 65 % for WEEE falling under categories 3 and 4 of Annex № 1; - 50 % for WEEE falling under categories 2, 5, 6, 7, 8 and 9 of Annex № 1. - 80% for WEEE falling under categories 5a of Annex № 1	
	2015	- 85 % for WEEE falling under categories 1 and 10 of Annex № 1;	- 80 % for WEEE falling under categories 1 and 10 of Annex № 1;	- 41% from the average weight of EEE placed on the
	2016			

Waste streams	Year	Objective		
		Recovery	Recycling	Collection
	2017	- 80 % for WEEE falling under categories 3 and 4 of Annex № 1;	- 70 % for WEEE falling under categories 3 and 4 of Annex № 1;	market during the previous three years
		- 75 % for WEEE falling under categories 2, 5, 6, 7, 8 and 9 of Annex № 1.	- 55 % for WEEE falling under categories 2, 5, 6, 7, 8 and 9 of Annex № 1. - 80% for lighting equipment, under category 5a of Annex № 1	- 48% from the average weight of EEE placed on the market during the previous three years
	2018	- Recovery not less than 85 % for WEEE falling under categories 1 and 4 of Annex № 3;	- Preparation for reuse and recycling of not less than 80 % for WEEE falling under categories 1 and 4 of Annex № 3;	- 55% from the average weight of EEE placed on the market during the previous three years
	2019	- Recovery not less than 80 % for WEEE falling under category 2 of Annex № 3;	- Preparation for reuse and recycling of not less than 70 % for WEEE falling under category 2 of Annex № 3;	- 60% from the average weight of EEE placed on the market during the previous three years
	2020	- Recovery not less than 75 % falling under categories 5 and 6 of Annex № 3.	- Preparation for reuse and recycling of not less than 55 % for WEEE falling under categories 5 and 6 of Annex № 3;	- 65 % from the average weight of EEE placed on the market during the previous three years in Bulgaria
			- For WEEE falling under category 3 of Annex 3, are recycled not less than 80 %.	
End of Life Vehicles (ELV)	2015	Reuse and recovery shall be increased to a minimum of 95 % by an average weight per vehicle and year.	Re-use and recycling shall be increased to a minimum of 85 % by an average weight per vehicle and year	
Waste Oils	Annually for each year of NWMP	Min 40% of the amount of oil placed on the market in the current year		
Waste tires		Recovery not less than:	Regeneration and / or recycling of not less than:	
	2014	65 % of the quantity (in tons) of tires, put on the market in the current	20% of the amount of tires placed on the market in the current year	

Waste streams	Year	Objective		
		Recovery	Recycling	Collection
		year		
	2015	65 % of the quantity (in tons) of tires, put on the market in the current year	25% of the amount of tires placed on the market in the current year	
	2016	65 % of the quantity (in tons) of tires, put on the market in the current year	30% of the amount of tires placed on the market in the current year	
	2017	65 % of the quantity (in tons) of tires, put on the market in the current year	35% of the amount of tires placed on the market in the current year	
	2018	65 % of the quantity (in tons) of tires, put on the market in the current year	40% of the amount of tires placed on the market in the current year	
	2019	65 % of the quantity (in tons) of tires, put on the market in the current year	45% of the amount of tires placed on the market in the current year	
	2020	65 % of the quantity (in tons) of tires, put on the market in the current year	50% of the amount of tires placed on the market in the current year	
Portable batteries and accumulators (PBA)	2014			min 40% of marketed PBA disabling the PBA, which have been placed on the market, but are exported or sent from the territory of the country
	2015 and each subsequent year			min 45% of marketed PBA disabling the PBA, which have been placed on the market, but are exported or sent from the territory of the country
Automotive batteries and accumulators	Annually for each year of NWMP			Quantity automotive batteries and accumulators meeting the collection rate, not less than 100% of the quantity marketed automotive batteries and accumulators as the collection rate is calculated in accordance with Annex № 3 Ordinance
Industrial batteries and	Annually for each year of			Quantity industrial batteries and

Waste streams	Year	Objective		
		Recovery	Recycling	Collection
accumulators	NWMP			accumulators regardless of their chemical composition and origin meeting the collection rate, not less than 25% of the quantity marketed industrial batteries and accumulators as the collection rate is calculated in accordance with Annex № 3 of the Ordinance
Waste batteries and accumulators (WBA)	Annually for each year of		<ul style="list-style-type: none"> - Recycling of not less than 65% by weight of the materials contained in lead-acid batteries, and the highest possible degree of recycling of lead, which is contained in them, as avoiding excessive costs; - Recycling of not less than 75% by weight of the material contained in the nickel-cadmium batteries and accumulators and the highest recycling rate of cadmium contained in them, as avoiding excessive costs; - Recycling of 50% by weight of other WBA. 	
Bio-waste	2016	min 25% of the amount of municipal bio-waste generated in the region in 2014		
	2020	min 50 % of the amount of municipal bio-waste generated in the region in 2014		
	2025	min 75% of the amount of municipal bio-waste generated in the region in 2014		
Diversion of biodegradable municipal waste from landfills	2020	to 35% of the total quantity of those wastes generated in Bulgaria in 1995		
Municipal paper, cardboard, plastics, metals and glass waste	2016		min 25% by weight	
	2018		min. 40 % by weight	
	2020		min 50 % by weight	
Construction and	2016	at least 35% of the total weight of the waste		

Waste streams	Year	Objective		
		Recovery	Recycling	Collection
demolition waste	2018	at least 55% of the total weight of the waste		
	2020	at least 70% of the total weight of the waste		

Relation to other national plans

NWMP is a part of the national planning system. In the process of development of the plan are taken into account the main provisions of the National Strategic Plan reduction of biodegradable waste going to landfills 2010-2020, National Strategic Plan for waste management of construction and demolition waste in Republic of Bulgaria for the period 2011-2020 and draft National Plan for sewage sludge. NWMP was been developed in close coordination with the Third National Plan on Climate Change 2013-2020 particular in the part relating to greenhouse gas emissions from the "Waste" sector. Consideration and the provisions of the National Reform Programme of the Republic of Bulgaria on the strategy "Europe 2020" National Development Programme: Bulgaria 2020, the National Regional Development Strategy 2012-2022 and the National Action Plan for the Management of Persistent Organic Pollutants 2012-2020 are taken into account.

Public consultation process

Waste Management Act requires during the development of NWMP and NWPP, MOEW to organize consultations with relevant stakeholders, public administration, local authorities and the public. Consultation was consistent with the following principles for the implementation of partnership:

- Inclusiveness and equality – consultation to be national with the possibility of participation for all stakeholders from across Bulgaria
- Transparency - the draft strategy papers and opinions expressed by the participants in the consultations to be made publicly available
- Documentation - all ideas and suggestions expressed during the public consultation to be documented
- Feedback - participants receive answers and respond to their suggestions
- Bulgaria, European Union and the Single European Market have adopted the principle of transparency policy for good reasons related to economics, governance and democracy

The process of public consultation was launched in the end of 2012 when MOEW published in the chapter "Public consultation" on the website an invitation to interested parties to submit their proposals for a NWPP. In the invitation message were thoroughly explained the fundamental tenets of the policy on waste prevention.

Key stakeholders were consulted in the earliest stage of development of NWMP and NWPP through:

- Survey conducted among municipalities in the country during November-December 2013, which was attended by more than 90% of the municipalities in Bulgaria (received completed questionnaires from 249 municipalities).
- Survey conducted among managers of companies carrying out activities with waste management and managers of waste recovery and disposal installations from November to December 2013.
- Conducted focus groups (separately for paper, glass, plastics, metals and other materials) with representatives of recovery organizations and managers of facilities for recycling of such waste in January 2014.

A key element of the consultations scheme was the organization of discussions of NWMP and NWPP with representatives of NGOs and branch organizations. Discussions were preceded by publication of the draft plan and program on the website of the MOEW with call for proposals and opinions to all stakeholders.

NWMP and NWPP were further consulted with all ministries prior to their submission for approval by the Council of Ministers, while both documents with reflected recommendations from the public consultations were available again for public access on the website of the Ministry.

Public consultations were held in the framework of the environmental SEA of NWMP in accordance with EPA.

The terms of reference of the scope and content of the Environmental Report and the Consultation Scheme with the public, stakeholders and third parties in developing the National Waste Management Plan 2014-2020 were published on the website of the Ministry of Environment and Water on August 22, 2014.

In compliance with the requirements of Art.20 of the Regulation on conditions and procedures of environmental assessment of plans and programs, the prepared Environmental Assessment Report of the National Waste Management Plan 2014-2020 is presented for public consultation on 17 September 2014.

Authorities for development and approval

NWMP and NWPP were developed by the Ministry of Environment and Water, with „Waste Management and Soil Protection” Division leading the process of development, consultation and approval of the documents. After the public consultation procedures and the procedure of SEA conducted in compliance with EPA NWMP and NWPP were corroborated by Statement No. 12-7/2014 of 17.11.2014.

Ministry of Environment and Water:

Address: 1000 Sofia, 22 Maria Luiza Blvd.

Website: www.moew.government.bg

Council of Ministers:

Address: 1594 Sofia, 1 "Dondukov" Blvd.

II. Basic conclusions from the analysis of the status of waste management



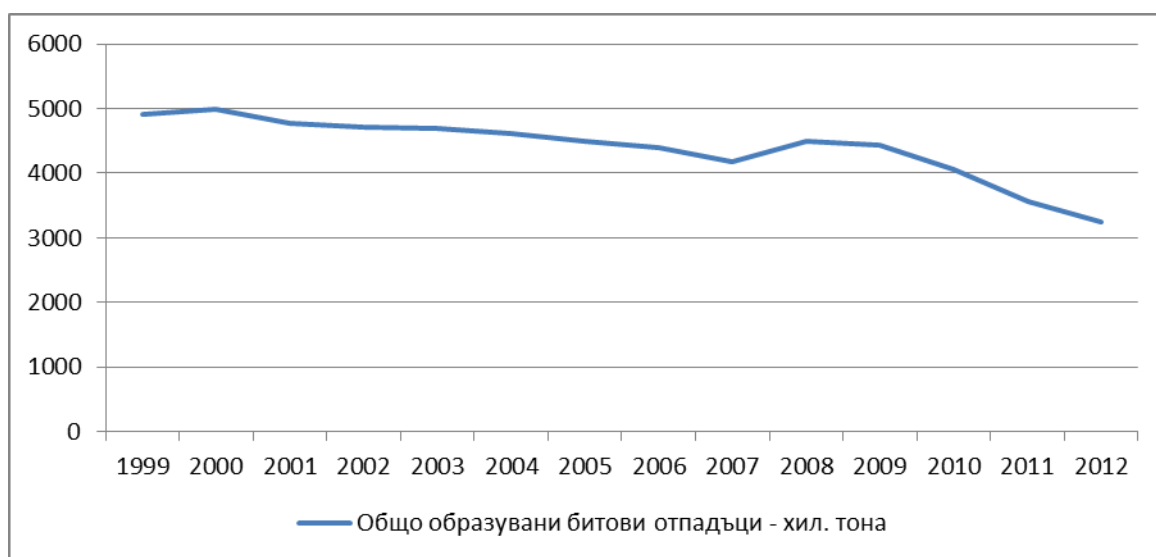
This section presents the most important facts and tendencies identified in the analysis of the current situation in the sector of waste management and also the resulting conclusions and recommendations. The text in this chapter follows the order of the prepared analyses, the full text of which is presented in the Annexes to this document.

Analysis of the current situation and prognosis for the type, quantities and the sources of waste generated on the territory of the country and also for waste which is probable to be subject of cross border transportation from or to the national territory

Municipal waste

- The total amount of municipal waste generated in the country is following a positive trend towards permanent decrease. In the period 1999-2012 the decrease is nearly 35% as the share of municipal waste in the total amount of waste is decreased to 14%.

Total generated municipal waste in Bulgaria (1999-2012), thousand tons

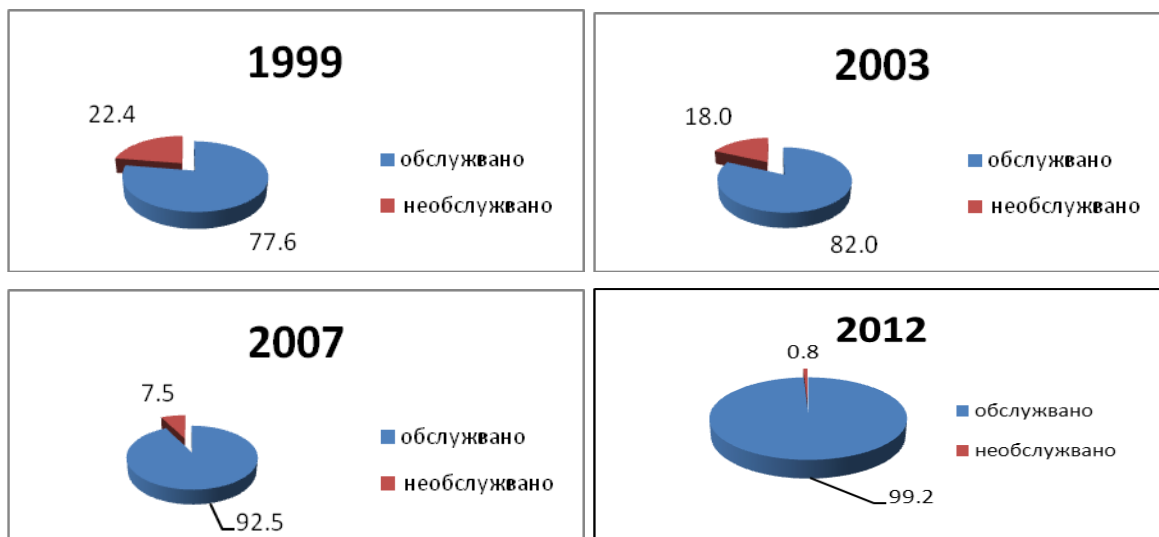


Source: NSI

- Based on Eurostat data, Bulgaria is under the average level of generation of municipal waste per inhabitant per year in comparison to EU-27 and the trend for this indicator regarding waste prevention is positive.
- The main source of municipal waste is households. The South-West region (where the Capital Sofia is situated) holds the biggest share with over $\frac{1}{4}$ of the municipal waste of the country and this share is constantly increasing.

- The share of population served by the organized waste collection and transportation of municipal waste grows steadily and in 2012 reaches 99%. The number of covered settlements increased three times for the period 2003-2012.

Share of population in Bulgaria, served by waste collection (in 1999, 2003, 2007 and 2012), %



Source: NSI

- There are significant differences between the Municipalities based on the indicator “generated waste per inhabitant per year”, which apart from the differences in economic and social indicators, is possibly due to inaccurate measurements of waste due to lack of measuring scales of landfills which have not yet met the regulative requirements.
- Landfilling as a method of waste disposal still holds the biggest share in the management of municipal waste, although there is a steady decline in this indicator in recent years. Bulgaria does not incinerate household waste, as opposed to the high level of this indicator in many European countries.
- Bulgaria is among the member-states with close to the average level of recycling in recent years.

Recycled municipal waste – kg/inh/y

	2009	2010	2011	2012 ⁵
Average for EU-27	122	125	129	132
Bulgaria	119	136	122	103

Source: Eurostat

- In recent years, the indicator ‘composted municipal waste per inhabitant’ has been improved, but the lag behind indicators in Central Europe has not yet been overcome. The reasons are the insufficient facilities for recovery of biodegradable municipal waste.

¹ For 2012 with the highest and the lowest level of this indicator are respectively Germany – 284 kg/inh/y and Romania -7 kg/inh/y

- In 2013, legislation on bio-waste management was promulgated, which combined with the existing economic instruments as well as the introduced in 2011 landfill tax per ton led to the present positive trends.
- Over 50% of municipal waste is biodegradable. According to the size of the settlement the morphology varies and includes garden and green waste, food, paper, carton and other biodegradable waste.
- The insufficient information provided on waste management process requires unification of the methods for studying the waste morphology and its systematic application and hereby to enable the identification of current trends and selecting a specific approach for each municipality in terms of separate collection and other waste management activities.
- Closer integration of the information systems of NSI and EEA regarding waste is also an important factor for improving the awareness in decision making in the field of waste management. For the existing problems an external factor is the lack of unification of the systems at EU level, namely between Eurostat and the European Commission.
- The introduction of methodology for estimation of the total amount of compost material by home composting, as well as following the indicators for the degree of sustainability of projects implemented by municipalities, will also contribute significantly to increasing the awareness of waste management process.
- Applying more directly the "Polluter pays" principle in determining the waste fee by measuring the waste quantities is likely to contribute to reducing the amount of municipal waste and encourage the participation of the population and businesses in systems of separate collection of recyclable waste at the source, but changing the way of defining the municipal waste fee is a major challenge for municipalities and the population.
- Measures are needed for improving the effectiveness of separate collection of paper, glass, plastics and metal from packages and other sources by covering a larger number of municipalities in Bulgaria by the systems of extended producers responsibility with changes in the criteria for covered population, as well as improving the partnership between the municipalities and the organizations in construction of new common systems for separate collection of recyclable waste.
- Measures are needed for improvement of the effectiveness of the separate selection and standards for treatment, reporting and control of WEEE, ELV, waste tires, etc. widespread waste in compliance with the regulations.
- A package of measures should be developed and implemented for improvement of transparency and effectiveness of activities of recovery organizations.
- The Plan should review the opportunity to introduce a regional approach to the formulation and achievement of the targets for recycling of household waste.
- Measures regarding granting preferences for municipal waste fee, provided that households and legal entities join and participate in the system of separate waste collection are also likely to contribute to the improvement of the waste management system.
- Increasing the capacity of institutions and awareness by conducting regular training programs on waste management hierarchy with emphasis on biodegradable waste, separate collection, recycling and prevention and the methods to determine the

morphological composition of waste are also essential to improve the efficiency of the system.

- The analysis gives grounds to the opinion that in the new programming period of OPE 2014-2020 priority should be given to funding of municipal projects for construction of facilities for recovery of biodegradable waste and for introduction of systems for separate collection (containers, specialized vehicles, etc.). Municipal projects for waste prevention and waste disposal, in compliance with the instructions prepared by the MOEW, would also have a positive effect on the future development of the system. OPE 2014-2020 beneficiaries will also be profit entities, structures of the Ministry/units in the structure of the Ministry, non-profit organizations - for activities related to the implementation of demonstration/pilot projects.
- Efforts should be focused also on the realization of business projects for construction of facilities for application of Hi-tech solutions for optimization of the production processes and reduction of usage of raw materials; introduction of modern technologies for inclusion of waste as raw material in new production and/or other alternative usages, technologies for ‘Green products’, etc., which can be supported by OP “Competitiveness and Innovation 2014-2020”.

Industrial waste

- For the period 2004-2012, the volume of generated industrial waste is decreased by half as the most significant decrease was in the early years of the period.
- Industrial waste represents the majority of the generated waste under the Waste Management Act. In 2012 their share is over 80%.
- At the beginning of the period 2004-2010, Bulgaria reports the highest value of industrial waste per unit of GDP. Compared to EU - 27 the country produces three times more waste per unit of GDP.
- In 2010, the indicator industrial waste per unit of GDP shows that the country is in a significantly better position being below the level of a few highly economically developed member states.
- The values and trends of the indicator generated industrial and construction waste per inhabitant are more favorable than the average in Europe.
- Ranking the generated industrial waste by economic activity shows that the first place belongs to "Production and distribution of electricity, heat and gas fuels" and its share accounts for 56% of total industrial waste for 2008-2012. The second largest share is for activities for provision of services, followed by waste from production of chemical products - 6.2%, and waste from plants, livestock and forestry - 5.5%.
- Regionally the greatest amounts of industrial waste are generated in districts of Stara Zagora, Varna, Sofia City, Pernik, where TPP (thermal power plant) and other industries are concentrated and generate large amounts of industrial waste.
- In Bulgaria, there are positive trends in prevention of industrial waste, including in relation to the average European levels.
- For the period 2008-2012, 11.9% of the generated industrial waste is directed for recovery of which the share of waste containing metals is the largest, as well as waste from combustion plants. Over the same period, quantities directed for disposal of

industrial waste remained relatively constant at around 7,000 thousand tons per year, but decreasing as share to 38.6% of total industrial waste.

- Landfilling remains the main method of waste disposal in the country. The amount of disposed industrial waste in 2012 is 7377 thousand tons, 70% of these are wastes from thermal processes.
- For the period 2004-2012, a total of 388 thousand tons of industrial waste are exported from the country, which represents 0.2% of the generated waste in the country. Export of scrap formed the largest share of exports and represents 62% of exported industrial waste.
- The incorporation in IIS (integrated information system) of the collected information on issued licenses/permits and control of implementation of the requirements of the permits, also information about prevention and recovery of industrial waste, will contribute significantly to the effective management.
- A significant positive effect would result from research projects in target sectors and development of proposals for solving the problems with wide generated industrial waste. Such projects carried out by research institutions and businesses could receive support and funding under priority axis "Technological Development and Innovation" of the Operational Programme "Competitiveness and Innovation 2014-2020".

Construction waste

- Bulgaria has prepared a strategic plan for management of construction waste for the period until 2020, where specific targets for reuse, recycling and recovery of construction waste are set.
- Bulgaria reports much lower values of the index construction waste/inhabitant/year than the EU-27 average.
- The amount of construction waste generated is reduced in recent years.
- Construction waste has a relatively small share of generated industrial waste - about 6%. The highest share of construction waste is generated by the sub-sectors "Demolition" and "New Construction" (35%), followed by the sectors "Roads" (33%) and "Industrial Enterprises" (26%).
- The analysis of the morphology of construction waste indicates that earth and rock have the highest share (33%), followed by concrete and reinforced concrete (28%) and asphalt (11%).
- Regionally, the largest quantities of construction waste are generated in the regions of Sofia city, Varna, Burgas, Plovdiv and Blagoevgrad.
- The majority of construction waste has a high potential for recycling and recovery.
- In the period 2008-2012, the increase of the share of recycled towards the disposed construction waste occurs as a positive trend.
- As a result of institutional requirements and best practices in railway sector a much higher level of recovery of construction waste sector - over 80% is achieved, indicating that the regulation of requirements leads to positive results.
- In "Roads" sector, which accounts for about one-third of the construction waste, there is still a significant fall behind. The introduction of regulation and the enforcement of "green" procurement requirements for waste recovery and the use of recycled construction materials may contribute to overcoming this fall behind.

- A national information system for generated, recycled, recovered and disposed of construction waste is not yet established, therefore the data for recovery of construction waste from the available sources are incomplete and of doubtful accuracy.
- The increase of the capacity of branch organizations of construction industry and of production of construction materials through methodological and training materials, including large-scale trainings, the presence of Internet-based information portals for application of the European and national legislation and policies, development of waste management plan in the process of investment planning, the opportunities and standards for use of recycled materials in construction will contribute to improving the efficiency of waste management. The possible source of funding for such activities is OP "Good Governance 2014-2020".

Hazardous waste

- The indicator hazardous waste generated per unit of GDP in Bulgaria remains more than twice higher than the average for the EU-27.
- For the period 2004-2012 in the Republic of Bulgaria the total amount of hazardous waste, according to NSI data, is 6174 thousand tons or an annual average about 688 thousand tons⁶.
- For the period 2008-2012, the amount of generated hazardous waste remained relatively constant, excluding the reports for 2011.
- Of all hazardous waste generated in 2012, divided by groups of the List of Wastes, hazardous waste from thermal processes is with the highest proportion (40.7%), followed by hazardous waste from thermal chemical surface treatment and coating of metals (24.2%) and hazardous waste generated by facilities for processing of waste and wastewater treatment - 20.6%.
- The largest quantities of hazardous waste are produced in districts Sofia city, Plovdiv, Kardzhali and Burgas, due to the specific industries in their territory.
- For the period 2008-2012, almost 5% of the generated hazardous waste, including for recycling, were submitted for recovery and the trend is to increase.
- For the observed trend of rise of the share of the hazardous waste for recovery, including for recycling, contributes the increase of the share of submitted for recovery hazardous waste obtained after pretreatment of spent lead-acid accumulators, end-of-life vehicles and waste electrical and electronic equipment as a result of regulation of the widespread waste management.
- The hazardous waste submitted for disposal for this period decreased and in 2012 their quantity is 7.9 thousand tons.
- A serious problem for the country is the storage of obsolete pesticides in a manner that creates risks for the population and the environment. The problem with pesticides is a result from accumulated amounts in the collective farms (Labor Cooperative Agricultural Farm) and AICs (Agro-Industrial Complex) closed during the 90's of last century.

⁶ Wastes generated by the exploration, extraction and processing of subsurface natural resources (group code 01 from the List of Wastes according to Annex 1 of Regulation 3/01.04.2004) are excluded from the hazardous waste analysis.

- The share of imported hazardous waste compared to hazardous waste generated in 2007-2010 is 3%, and of exported - 0.4%. Mainly from imports the lead-acid batteries, lead compounds and copper waste from the production of iron/steel wastes are recovered. The most commonly exported are the WBA, for which there are no recycling plants in the country, discarded fluorescent lamps and other mercury-containing lamps, transformers and capacitors containing PCBs.
- The information system related to management of hazardous waste needs to be improved and developed.
- There will be a beneficial impact from increasing the capacity of the competent authorities by providing appropriate training including presentation of good practices of other EU member-states in issuing permits for production target groups for Bulgaria in terms of the hierarchy of waste management.
- The financial and technical support of periodic checks on individuals generating hazardous waste, and companies engaged in activities with hazardous waste must also be supported by the MOEW.
- Projects of scientific-research teams and businesses for studying and solving specific problems on hazardous waste should be supported under Priority Axis "Technology Development and Innovation" of Operational Programme "Competitiveness and Innovation 2014-2020".

Specific waste streams

Packaging waste

- During the period 2004-2012, the total consumption of packaging in Bulgaria remains fairly constant. Consumption of packaging per inhabitant in the country is almost four times lower than the EU average.
- There are significant fluctuations in the consumption of different packaging materials. There is a clear trend to diminish of glass packages and increase of paper and cardboard packaging.
- The country fulfills the overall national targets for recycling and recovery of packaging waste.
- In the last year exported quantity of packaging waste represents about 15% of the total packaging waste generated and less than 10% is imported.
- The recycling industry of glass, paper and cardboard is experiencing shortages of quality waste therefore has to import.
- Separate collection of glass requires additional efforts, both through measures related to population and by increasing the commitments of large generators of glass - shops, catering and others.
- Improving the information system is a prerequisite for making appropriate management decisions. Reporting the targets achievement at regional level requires a rapid change in the reporting method of packaging recovery organizations which have to report for the state of implementation by regional significance and also by groups of waste generators - population and business.
- It is necessary to strengthen the implementation of retail and other administrative buildings of the requirement of the WMA for separate collection of paper and

cardboard, plastic, metal and glass (including packaging) waste, including through systematic control of RIEW and the municipalities.

- The implementation of national and municipal communication strategies and the expansion of information campaigns for the public and the business about the benefits of separate waste collection coordinated with information campaigns by recovery organizations will contribute to improving the efficiency of the system.

Waste electrical and electronic equipment (WEEE)

- For the short period of implementation of the requirements for separate collection, recycling and other recovery of WEEE a working scheme for this kind of widespread waste (WSW) has been created in the country.
- Bulgaria has fulfilled its goals on WEEE collecting from households and non-households.
- Bulgaria has achieved its WEEE recovery and recycling goals.
- For the four-year period 2007-2010, the quantity of collected WEEE has increased twice.

End-of-life vehicles (ELVs)

- In the period 2007-2011 the amount ELV is growing continuously.
- Republic of Bulgaria has achieved the national goals for reuse, recovery and recycling of ELVs.
- Possibilities for recovery of glass from ELVs are to be found.

Waste from batteries and accumulators (WBA)

- A working plan for extended producer responsibility for the WBA has been established in Bulgaria.
- There is a trend of increase in the quantity of collected and recycled batteries and accumulators. Bulgaria achieves its goals of WBA collection and recycling.

Waste tires (WT)

- For the first year of operation, the scheme of extended producer responsibility of tires shows very positive results, allowing compliance with the ban on landfilling of tires.
- At national level the rate of recovery achieved is 68.26%, 70% of which is recycled.
- It is necessary to review the issued permits for pyrolysis of waste tires in order to ensure compliance with the requirements for waste incineration and reporting of the final pyrolysis substances as hazardous waste.

Waste oils

- For the period of the operation the extended producer responsibility for waste oils scheme showed very positive results.
- The achieved target for recovery at national level is nearly 60%. A good level in the waste oils management hierarchy is reached.

Wastes containing PCB / PCT

- The amount of waste containing PCBs is insignificant in the total volume of hazardous waste in the country. In the period 2006-2012, there was a clear trend towards reducing the volume of waste containing PCBs.
- In the updated National Implementation Plan for the Management of POPs in Republic of Bulgaria in the period 2012-2020, two measures are proposed - update of electronic database for PCBs / PCTs containing equipment (transformers and capacitors) and final disposal abroad of existing equipment containing PCBs/PCTs. The first measure was implemented in 2012 and the second measure is 99.6% realized in 2008-2012. The remaining 0.4% of PCB equipment is decommissioned and will be finally disposed of abroad.

Sludge from WWTP

- In the period 2004-2009, there was an increase of over 300% of the amount generated of sludge from WWTP. Annually generated amount sludge from WWTP per inhabitant in the country is among the lowest in the EU.
- The methods of disposal and recovery of sludge from WWTP have expanded in comparison to 2006, when the disposal of sewage sludge is 60% of the total. In 2012, this percentage decreased to 11% of the total amount.
- The draft of the National Plan for the Management of Sewage Sludge from municipal Wastewater Treatment Plants in Bulgaria includes a set of measures for recovery and disposal of sludge from WWTP by 2020.
- There is some collision between the sludge management projects in the construction and modernization of wastewater treatment plants and the proposals in the National Plan for the Management of Sewage Sludge from municipal Wastewater Treatment Plants in Bulgaria. The first include the option for disposal, while in the National Plan this method is not encouraged.
- The analysis of the possibilities for recovery of sludge from WWTP shows that there is a possibility nearly 100% of the sludge from WWTP to be recovered in agriculture and land restoration.

Healthcare waste

- In the period 2004-2012, there was an increase of the volume of waste from health establishments.
- Bulgaria operates an incinerator for hospital waste with heat production and the capacity of this incinerator is not yet completely used. At present there is no register of specific information on the current status of the operating facility for recovery of waste from medical and health establishments, nor for their capacity. To optimize the waste management from health establishments it is necessary to create such a database and to include it in the future waste management integrated information system.
- A necessity of measures aimed at preventing and minimizing the volume of waste by optimizing the process of separate collection and also promoting the use of recyclable materials is identified.
- The achievement of effective waste management from health establishments requires an active participation of professional organizations in the sector as Bulgarian Medical Association and the Union of Dentists in Bulgaria. They could be beneficiaries under the OP "Good Governance 2014-2020".

Analysis of the infrastructure in "Waste" sector

- Municipalities are well equipped with containers for mixed municipal waste and there is a wide variety in the type, size and material of the vessels used for the collection of municipal waste.
- In 58 municipalities a purchase of additional vessels is required to ensure the full coverage of the population of small settlements with organized collection of municipal waste.
- An ongoing replacement of old and obsolete vessels is planned in all municipalities in the country. In some municipalities an exchange of large containers (mainly with a volume of 4 m³) is planned due to the optimization of the municipal waste collection and transportation systems.
- Municipalities are not provided with containers for separate collection of bio waste. Such vessels should be ensured by municipalities which in 2013, 2014 and 2015 will put in exploitation the presently constructed facilities for recovery of bio waste.
- The vehicles park for waste transportation is outdated. The share of new specialized transportation vehicles bought in the last 2-10 years is small. It is necessary to make a quick replacement of depreciated vehicles which are operating for over 20 years and represent about 31% of the technique used.
- It is necessary to replace the collection vehicles (about 10% of all vehicles) with specialized equipment due to the transition from 4m³-containers to small volume containers. In some municipalities it is necessary to purchase additional specialized equipment for long distances transportation of waste to the regional landfill.
- The transfer stations which are to be built by OPE 2014-2020 funding or by the state budget will contribute to reduction of transport costs for the relevant municipalities covered and will make waste management service more affordable for the population of these municipalities.
- Efforts in construction of facilities for waste treatment in the regional systems should continue with the following priorities:
 - Conducting feasibility studies at RWMA (Regional Waste Management Association) level for ensuring systems for recovery of bio waste by production of compost and RDF fuel (possibly in combination with systems and equipment for home composting) in RWMA where there are no such provided and also in RWMA where envisaged systems are insufficient to cover the requirements and to achieve the bio waste recovery targets.
 - Conducting feasibility studies at RWMA level for ensuring systems and equipment for pre-treatment and separation of recyclable waste from paper and cardboard, metal, plastic and glass and of municipal waste suitable for incineration, taking into account the established separate collection systems of such waste at the source.
 - Mobilization of municipalities and support by MOEW for finishing on time and commissioning of the funded by OPE 2007-2013 and by EMEPA installations and equipment for recovery of biodegradable waste, separation and sorting installations and cells/landfills.
 - Solving the problems with regional landfills of RWMA Provadiya, Pazardjik, Dupnitsa and Blagoevgrad, the construction of which will be funded by the state budget.

- Funding by OPE 2014-2020 of the project of Metropolitan Municipality for recovery of RDF-fuels produced by MBT-installation.
- Finishing the projects for closure and recultivation of old landfills financed by OPE 2007-2013 and EMEPA.
- Preparation of projects for closure and recultivation of the rest of the landfills for municipal waste with terminated operation or operation of which is to be suspended in the next three years, funded by the state budget and municipal budgets. Prioritizing projects which include recovery, where possible, of useful components in the waste prior to recultivation activities.

Analysis of historical contaminated waste sites and implemented measures for their rehabilitation

- The process for closure of municipal landfills that do not meet the legal requirements started in 2009, as till now are closed landfills on the territory of 15 municipalities.
- In process of implementation are activities on technical and biological recultivation in other 7 municipalities, as the total area of landfills that will be recultivated is 688 acres.
- In process of evaluation to select a contractor and start tender procedure for recultivation of landfills are still 11 municipalities, as the total area of sites which will be reclaimed is about 537.6 acres.

Analysis of schemes for waste management and implementation of "Producer responsibility" and "Polluter pays" principle, economic instruments and incentives

Scheme "Producer responsibility and owner responsibility of the generated waste in the production of goods and services - industrial waste, incl. industrial hazardous waste, hospital waste, PCBs / PCTs, sewage sludge, construction and demolition waste"

- The major challenge to the scheme, in terms of the waste hierarchy (*except for CW*), is the lack of binding targets for recycling and other recovery of waste.
- Lack of knowledge in business regarding the philosophy, legislation and benefits of policies on effective use of resources, including the application of the waste hierarchy and lack of binding targets do not allow making the best decisions in terms of waste management hierarchy. Therefore, at the national level it is necessary to introduce appropriate incentives and training for persons in the scheme for implementation of resource efficient approach to waste.
- At present, it is not possible to assess the effectiveness of the scheme for construction waste. A big challenge for all stakeholders is binding targets and requirements for the preparation of management plans for construction waste.
- In order to improve the implementation of the scheme it is appropriate to:
 - develop as early as possible criteria and requirements for projects that businesses can apply to Operational Programme "Innovation and Competitiveness 2014-2020," under priority axis "Energy and Resource Effectiveness", investment priority "Resource Effectiveness" (the investment

priority suggests also projects for technological renovation of productions aimed at moving Bulgarian enterprises to a higher level in waste hierarchy).

- provide highest priority to waste prevention projects in procedures for competitive selection
- develop detailed rules for funding under priority axis “Technology Development and Innovations” of Operational Programme "Innovation and Competitiveness 2014-2020," as with high priority to be projects for development of new product design and technology, requiring less natural raw materials containing less hazardous substances, generating less waste after products use, including hazardous waste or waste containing less hazardous substances, development of new product design and technology which allows easy disassembly of products after their use in order to facilitate waste recycling and recovery.
- support industry/employers' organizations projects for development of methodological and training materials / information web-portals and conduct large-scale training programs for business on the European and national policies and programs for the effective use of resources under OP “Environment 2014-2020” or OP "Good Governance 2014-2020".
- support projects of state administration and municipal associations for improvement of administrative capacity of contracting authorities for preparation of tender documentation, which pledged "green" requirements, such as requirements for the selective separation and material recovery of certain type of waste; use of recycled materials in new building, etc.

"Extended producer responsibility“ scheme for 6 groups of specific waste streams as packaging waste, ELV, WEEE, waste oils, waste batteries and accumulators, waste tires

- In 2012, obligated entities under the scheme which executed their responsibilities by collective systems are approximately 10 000 and obligated entities who perform individual their responsibilities are 19 for six types of specific waste streams.
- The product tax which should be submitted to EMEPA is significantly higher than the actual cost of achieving the recycling and recovery targets for specific waste streams. In this situation obligated entities under the scheme do not prefer this option, which increases the participants in collective schemes for targets fulfillment.
- The “Extended producer responsibility“ scheme shows good performance in terms of the waste hierarchy in combination with the introduced economic instrument - product tax for specific waste streams and possible mechanisms for control and audit.
- Identification of all obligated entities in the scheme is a problem that can be solved by building an information system that provides RIEWs access to the necessary information.
- Profound research is necessary for the possibility of introduction schemes for different types of products.
- Measures that could contribute for improving the effectiveness of the scheme are:
 - Support projects for development of new design of products that after their use become widespread waste; development of new product design and technology, extending the useful life of products - for example through easy and inexpensive replacement of fast-wearing components.

- Support projects for accreditation and other procedures for "end of waste" criteria under the WFD for widespread waste.
- Support industry/employers' organizations projects for development of national "end of waste" criteria within WFD for waste streams that have not been adopted and developed by European regulations.
- Support projects for EPR schemes for development of methodological and training materials and information portals and conduct large-scale training programs and awareness campaigns.
- Improvement of the systems for separate collection and treatment of end-of-life vehicles, waste electric and electronic equipment, waste batteries and accumulators, waste tires, and waste oil, in order to guarantee the achievement of targets referred to in the related ordinances on widespread waste, by implementing the following measures:
 - determine minimum technical requirements for widespread waste collection and treatment systems, following consultation with the parties concerned, to ensure the implementation of technical solutions and development of infrastructure for waste treatment that provide a high level of protection of public health and environmental environment;
 - implement a system of organizational measures ensuring adequacy of registration and licensing regimes to ensure effective application of the regulatory requirements and applicable technical standards for collection, storage, transport and treatment of widespread waste;
 - improve the reporting system and thus provide reliable information on the activities related to widespread waste, enable the provision of electronic information, etc.;
 - provide public access to annual reports and audit reports of recovery organizations;
 - introduce effective control over the activity of widespread waste recovery organizations when accounting for European good practices and in order to ensure greater transparency, traceability and control in compliance with antitrust laws. Discuss the possibility of introducing a clearing structure in the organization, coordination and control of activities related to widespread waste, in cases when more than one recovery organization operate on the market;
 - provide in an appropriate manner information to citizens and businesses on the amount of expenses related to waste collection and treatment, which are covered by the fees they pay;
 - provide adequate control, including through a system of audits, on reported quantities of products the use of which generates widespread waste, and thus provide for the contribution of each liable person (manufacturer, importer or distributor) to the system of extended producer responsibility.

“Responsibility of households and other persons who generate household and similar to household waste” Scheme

- Household waste has a small share of total waste generated within the WMA.

- There is a gap in terms of construction of modern facilities and equipment in order to ensure a higher level in waste management hierarchy.
- Till the middle of 2014, municipalities should provide sites for free delivery of separately collected household waste, including bulky waste, hazardous household waste, from household repairs, etc.
- Loss of secondary resources in the closure and rehabilitation of old landfills without recovery of at least part of the waste is also a weakness of the waste management scheme.
- The following key activities could improve the effectiveness of the scheme for household waste:
 - Preparation of an indicative list of municipalities which are appropriate to prepare projects for funding under Priority Axis 2 "Waste Management" of the OPE 2014-2020 from the administration of the OPE at the earliest stage.
 - Preparation and procurement by the RWMAs of feasibility studies and environmental procedures to ensure the necessary elements of integrated systems for recovery of municipal waste.
 - Preparation and procurement by the municipalities of projects for closure of landfills with discontinued operations, compliance or advantage for design decisions involving recovery of suitable landfilled waste.
 - Research and preparation of a complete list of projects in municipalities with larger settlements that generate large amounts of food bio waste and green spaces in urban areas and neighborhoods, which generate large amounts of green waste.
 - Procurement procedures by municipalities/RWMAs municipal waste management associations for waste composition studies.
 - Development and implementation of information reporting system, including software for municipal reporting of waste management information.
 - Development of alternative methods for municipal waste fee determination, approaching as close as possible to amount of waste generated base.
 - Implementation of legal obligation for municipalities to conduct information campaigns related to waste management. Explicitly include in Law on local taxes and fees the cost of information campaigns as a cost element forming of the municipal waste fee.
 - Publication of detailed accounts for the cost of the municipalities on the basis of which a waste fee is charged, including cost elements and types of activities.
 - Publication on the website of the municipalities and wider disclosure of the exact location of the sites for separate collection of paper, metal, plastic and glass waste, what kind of waste and in what quantities can be delivered on these sites.

Analysis and assessment of current legislation and policy documents

- European strategy documents in recent years changed the philosophy and approach to waste, from targeted waste management as a factor damaging the environment to policy of preventing waste generation and their effective use as resources.
- Community legislation in the sector undergoes rapid development since the approval of the first European Waste Framework Directive before 40 years. From the general provisions in the 1970s which aims reduction of the harmful effects from waste on the environment, today's legislative package contains specific requirements and targets for reduction of landfill waste, recycling and recovery of specific waste streams and waste prevention.
- There is a high probability for changes in European waste legislation which aims even higher level of protection of the environment and human health, as well as the transition from waste management to sustainable management and efficient use of resources. In particular, it is expected:
 - additional restrictions for landfill of waste
 - specific provisions for reduce consumption and prevent waste from polythene bags
 - restrictions for incinerators of waste which can be recycled;
 - introduction of higher recycling targets for municipal waste, especially for plastic waste
 - introduction of quantitative targets for waste prevention , especially for plastic, municipal /food and hazardous waste
 - higher goals for preparation for reuse and recycling of packaging waste and ELV
- For only 15 years, national legislation on public relations related to waste management is developing very fast and dynamic.
- National framework is built in its entirety as a logical structure and architecture. The existing national system can be easily expanded even projections of changes in European legislation to be implemented.
- There are certain shortcomings in several articles in Law on Spatial Planning (LSP), which must be removed as they represent formal barrier to undertake investment initiatives by municipalities and business for recycling facilities and recovery of construction waste and other waste types.
- In order to ensure public access to information related on municipal waste it should be made changes in the Statistics Act.
- In the implementation of the first Law of reducing the harmful effects from waste on the environment and the subsequent laws there are developed national program documents as robust tools for implementing the legislation and to identify important legislative initiatives in the sector.

Analysis of information provision

- The Ordinance on the terms and forms that provide information on waste management activities and procedures for the conduct of public records under Art. 48, point 1 of the WMA is a significant step towards improving the information related to waste management.

- Currently many different institutions collect information regarding waste management, as there is no integrated information system.
- The information gathered by one institution is not always available for use by units from another institution, which prevents efficient waste management and implementation of processes control.
- Part of the collected information that is public in its nature, is not available online or in any other suitable analytical form.
- It is necessary to increase the volume of information collected from various sources, such as in municipalities should to be collected information about the objects in the larger settlements that generate large amounts of food bio waste and green areas in urban areas and neighborhoods, generating green waste, etc.
- Received information in different units of the responsible institutions is not available to those who will eventually use it to perform the functions assigned to them.
- The available information is often organized differently in different institutions, which does not allow a comparative analysis of the data - e.g. cover different time span performance in different breakdowns.
- Database prepared during the development of NWMP 2014-2020, including information collected through questionnaires and inquiries, can serve as the basis for an integrated information system and database for waste management.

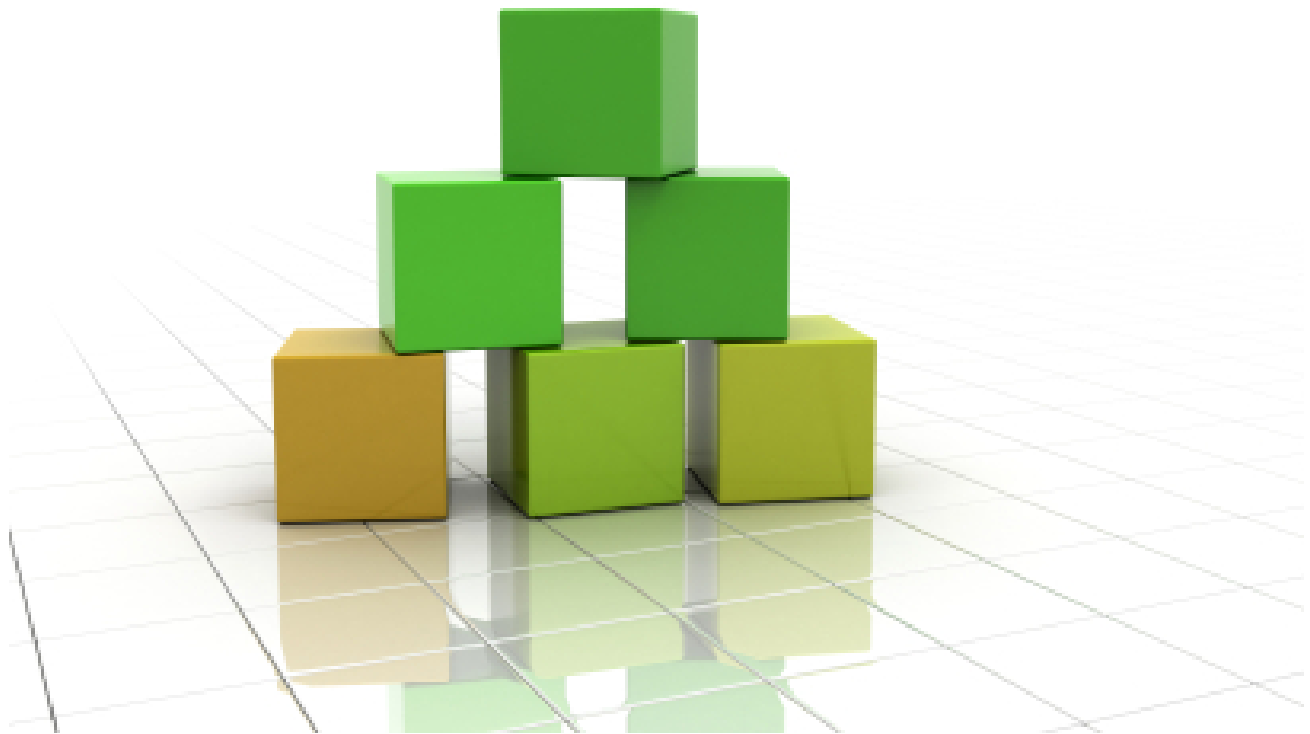
Analysis of institutional capacity in the field of waste management

- National legislation clearly distinguishes the duties and responsibilities of waste management institutions at central and local level.
- MOEW and municipalities have experience in the development of legislation and policy documents, but the majority of the municipalities must update their municipal regulations and waste management programs in accordance with the requirements, therefore MOEW should urgently develop guidelines to the municipalities.
- It is necessary to start development of regional waste management programs level – regional waste management associations.
- Improvement of information provision of waste management should include a number of measures outside the information system - creating registries of objects to be controlled; preparation of annual plans and reports for control activities; etc.
- In the country for the first time is developed National waste prevention programme. In the instructions that MOEW will develop for update of the municipal and regional waste management programs it should be included practical recommendations for introduction of waste prevention measures.
- Information campaigns at national and local level are limited and held ad hoc, and not on the basis of long-term communication strategies for waste management.
- It is highly recommended to conduct systematic training programs in order to improve the capacity of municipal administration.
- In recent years MOEW has developed and RIEWs apply rules and instructions for carrying out inspections and controls in line with the common European requirements for inspections in the field of environment. The process can become even more

effective in the development of standard models to conduct the inspections on each of the ordinances under Waste Management Act and the requirements for them.

- The introduction of external audits for recovery organizations along the entire route of widespread waste to its recycling and recovery will provide additional guarantees of achieving the targets.
- In the guidelines from MOEW to municipalities or by introducing a statutory requirement it is necessary municipalities: to create registries of objects to be controlled; to prepare an annual plan and annual report on inspection activities to be approved by the mayor, and the results of the examination are published on the website for public information; to create electronic or paper records / books to reflect the results of the checks prescriptions to eliminate the violations and timing thereof and the results of checks on compliance of prescription; municipalities without a "green phone" or other operating mode for signals from citizens should ensure it.

III. SWOT analysis of the “Waste” Sector



SWOT analysis is based on the idea of division of the object of strategic analysis from environment in which it operates. The object of the strategic analysis is considered from its "strengths" and "weaknesses." The environment in which operates the object of strategic analysis is differentiated to "opportunities" and "threats".

Strengths. Strengths are resource, skill or other advantage, which the sector holds. Strength is a distinctive competence that gives competitive advantage.

Weaknesses. Weaknesses are constraints or lack of resources, skills and abilities that seriously hinder sector development.

Opportunities. Opportunities are most favorable elements of the external environment. These are favorable external factors that benefits or could benefit the sector.

Threats. Threats are the worst segments of the external environment. They put the biggest barriers to current or future (desired) state.

1. Achievements and strengths

- EU acquis have been transposed into Bulgarian legislation.
- Plans and strategies have been developed focusing on future actions in order to solve the existing problems in various sectors of waste management.
- A considerable administrative capacity at different levels of waste management - national, regional and local is build.
- It is established a practice of enforcing the legislation through effective monitoring of the sector.
- There are conditions that allow public participation in decision-making process related to waste management - EIA procedures, public hearings on legislative changes and programs, provision of information through various media and Internet.
- Bulgaria is one of the EU countries with a very low level of generated waste per capita.
- A high level of recycling and recovery of widespread waste is reached.
- Regional waste management is introduced for municipal waste management in the country.

2. Problems and weaknesses

- There is a gap in deadlines for closure of not complying municipal landfills.
- Missing social mechanisms to protect the poor segments of the population, which limits the increase of fees and provide own financial resources for investments in waste management.
- Insufficient strategic management and coordination between institutions working in waste management field.

- Insufficient activity of citizens and NGOs in the initial stages of planning and design of facilities and activities on waste management and enhanced activity in the later stages of the process.
- The infrastructure hasn't sufficient capacity to achieve targets for recycling and recovery of the estimated quantities of municipal waste.
- Insufficient capacity for disposal of hazardous waste.
- High level of landfilling of various waste types.
- Unsatisfactory level of information support of the processes involved in making informed management decisions and preparation of strategic documents.
- Lack of targeted measures and incentives that contribute to waste prevention.
- Lack of a comprehensive policy for information campaigns to inform the public.
- There is no established monitoring system to record the satisfaction of the public and stakeholders with the results from waste management activities.

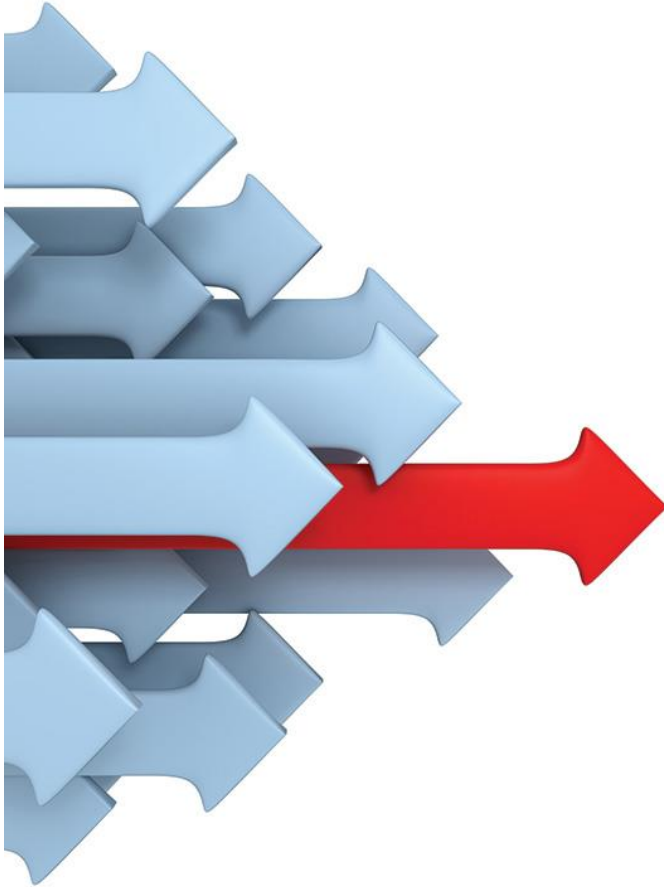
3. Opportunities

- Use of EU financial instruments for solving problems related to efficient waste management.
- Changing public attitudes in favor of environmentally sound and efficient waste management.
- Expansion of the market for raw materials from recyclable waste both within the EU and in the region.
- Established capacity and availability of legal basis for the establishment of a single integrated information system for waste management.
- New efficient technologies enabling waste recovery and recycling.
- Improving the efficiency of widespread waste management in order to ensure high quality recycling and application of the extended producer responsibility principle.
- Ensuring transparency in determination of municipal waste fee for citizens and businesses and introduction of the principle "pay according to the amount of waste".

4. Threats

- Low purchasing power of households and difficulty of low-income groups to allocate additional funds for services and activities related to waste management.
- The necessary public investments are significant for waste management in accordance with regulatory requirements and to achieve the objectives.
- Significant increase of the costs for household waste management and need to increase household fee for the population.
- Imposition of sanctions by the EU for non-timing closure of old landfills which do not meet the requirements.

IV. Objectives of NWMP 2014-2020 and programs for their achievement



SWOT analysis is fundamental for the formulation of strategic objectives for waste management in the Republic of Bulgaria.

The main strategic objective of the country in the field of waste management is:

Society and business which do not dispose of waste

Strategic objectives ensuring the achievement of the main strategic objective are:

- Objective 1: To reduce the harmful impact of waste by waste prevention and promoting reuse
- Objective 2: To increase the amount of recycled and recovered waste by creating conditions for developing a network of facilities for treatment of all waste generated, thus to reduce the risk to the population and environment
- Objective 3: Waste Management ensuring a clean and safe environment
- Objective 4: Making the public a key factor in applying the hierarchy of waste management

Within the frames of NWMP 2014-2020 nine programmes are developed which through their activities lead to achievement to the specific programme objectives (strategic / operational objectives) and also to the four strategic objectives of the national plan.

The selection of specific measures and their combination in time presents different alternatives for achieving the indicative objectives.

In order to choose one alternative as basis of NWMP 2014-2020, different approaches were used, namely:

- For the non-investment measures proposed in the programmes an evaluation was made of their adequacy in achieving the expected result for the lowest cost and optimum time, taking into account the technology of occurrence of events associated with the proposed measures. For example, factors such as the launch of the operational programmes for the next planning period and their orientation were taken into account for the distribution and the time arrangement of the different non-investment measures.
- The evaluation of investment measures was carried out based on financial-economic analysis. Object of the analysis were the three developed scenarios and the zero scenario was used as basis for analysis and comparison to the other two scenarios.

The main characteristics of the scenarios including quantified investment measures are described below.

Scenario 1. "Zero scenario". In this scenario it is assumed that: (1) projects will be implemented for the 20 regional associations of municipalities for waste management (RWMA) who have already signed contracts by OPE 2007-2013 for the construction of waste management infrastructure, regardless of the stage of achievement of recovery targets of various waste streams; (2) for the other RWMA without funding by OPE 2007 - 2013 the current situation of waste management without making additional investments in building infrastructure for waste management will remain.

Scenario 2. "Centralized composting of separately collected bio waste"

The scenario ensures achievement of objectives related to:

- recycling of municipal paper, metal, plastic and glass wastes by applying separate collection of household waste at source, organized by the organizations for recovery of packaging waste

and by the municipalities; separate collection of waste from other sources and construction of additional installations for separations and/or preliminary treatment of mixed waste in regions where this is necessary;

- closing the municipal landfills which do not meet the requirements;

- opening of sites on the territory of municipalities and other investments which in the absence of will of private investors are to be implemented by the State and/or the municipalities.

- recovery of bio waste.

The scenario includes all investments which in the absence of will by private investors are to be implemented by the State and / or municipalities.

This scenario is characterized by the achievement of the bio waste recovery targets for each RWMA according to Art. 8, para. 1 of the Separate collection of bio-waste regulation (Official Gazette 107, 13.12.2013), as the quantities of bio waste treated by home composting, for which investments are also envisaged, are not considered bio waste recovered but are treated as waste prevention according to the meaning of WMA. The difference with Scenario 3 is that the objectives related to *composting/anaerobic digestion* are achieved by building *one central facility on the territory of the municipality, which is the center of RWMA*.

Scenario 3. "Decentralized composting of separately collected bio waste"

This scenario as well as Scenario 2 is characterized by achievement of the objectives described above. Similarly treated is bio waste treated by home composting. This scenario differs from Scenario 2 on the choice of composting / anaerobic digestion, as this is based on the approach besides basic facility of the territory of the municipality center of RWMA to build *several smaller decentralized facilities in different municipalities that make up the RWMA. The total capacity of the central facility and decentralized facilities in this scenario is equal to the capacity of the facility evaluated in Scenario 2.*

In assessing the scenarios are taken into account operating costs for realization of the specific scenario.

The made financial-economic analysis shows that:

Scenario 1 has the lowest present value. Here however recovery and recycling targets of municipal waste set out in European and national legislation are not achieved, which makes it unacceptable.

Second by this indicator is Scenario 3, which despite the higher investment costs, is characterized by lower operating costs due to the composting of bio waste near the place of separate collection and thus minimizing transportation costs.

Third place by this indicator takes Scenario 2.

Under the current situation investment measures from Scenario 3 were included in NWMP 2014-2020.

The estimated Scenario 3 includes investments in:

- Construction of waste pre-treatment facilities in RWMA for recovery of household waste and preventing greenhouse gas emissions, with sufficient capacity to achieve the objectives of preparing for re-use and recycling of waste materials, including at least paper, cardboard, metal, plastic and glass and ensure the disposal of a maximum of 50% of the inflow of waste.

- Construction of facilities for composting and anaerobic digestion of separately collected bio waste with a capacity sufficient to achieve the bio waste recovery targets per RWMA according to Art. 8, para. 1 of the Regulation on the separate collection of bio waste, taking into account that the quantities of bio waste treated by home composting are considered prevented, not recovered waste.
- Purchase and installation of containers for home composting in number and capacity, sufficient to cover the estimated quantities of green waste for home composting.
- Construction of additional cells for landfills and transfer stations with capacity sufficient to gather the disposed of waste in areas which do not have and are not currently being constructed landfills that meet all requirements.
- Construction of incineration facility for RDF fuel for Sofia Municipality.
- Other installations for recovery of municipal waste and prevention of greenhouse gas emissions.
- Investments for closing and reclamation of landfills.
- Investments in containers for separate collection of bio waste and vehicles for transportation of separately collected bio waste.
- Investments in construction of sites for free transmission of separately collected household waste, including bulky waste, hazardous waste from households and from repairs and other waste from all settlements in municipalities with a population greater than 10,000 inhabitants.

Costs related to:

- Current replacement of old and obsolete vessels for collecting municipal waste in all municipalities in the country;
- Replacement of large containers (mainly with a volume of 4 m³) in order to optimize the municipal waste collection and transportation systems;
- Current replacement of depreciated vehicles for collection and transportation of municipal waste;
- Replacement of container vehicles with specialized machines in order to pass from large size (4 m³) containers to smaller containers by volume;

which have been identified as necessary for the waste analysis are included in the operational expenses of the municipalities and are not considered as investment in the frames of the scenarios.

Formulated scenarios should be considered only in the context of making optimal decisions on the future technical infrastructure for waste treatment and cost estimation of the implementation of the plan. The choice of a decision to implement decentralized or centralized composting / anaerobic digestion at regional waste management level should be made based on analysis of possible alternatives and their comparison in terms of various environmental, economic and technical criteria in the relevant feasibility studies. .

The necessary investments for the municipal waste management system to achieve the ambitious targets for recycling and recovery which the country has set for the period 2014-2020 are summarized in the following table:

Type of investment	Investments, BGN
Installations for composting and anaerobic digestion	287 760 000
Containers for separate collection of bio waste	53 080 000
Motor vehicles for transportation of separately collected bio waste	49 800 000
Containers for home composting	29 970 696
Construction of municipal sites for free transmission of separately collected waste	53 500 000
Other installations for recovery of municipal waste and prevention of greenhouse gas emissions	241 210 000
Installation for incineration of RDF fuel for Sofia Municipality	254 257 900
Landfills and transfer stations	165 444 000
Closing and recultivation of municipal waste landfills for recovery of deposited of waste where possible	176 600 000
TOTAL	1 311 622 596

Reports with estimations of possible sources of funding for this investment programme were prepared. It should be clearly stated that there is a real possibility for part of the investments to be carried out by private investments or by public-private partnership i.e. the proposed investment measures not to require a public resource but to increase the operating costs for an extended period of time in which the cost of the investment to be recovered.

To calculate the funding opportunities of investment of the collected funds from the population and the business financial analyzes were made which take into account "the affordability of the population." For this purpose, based on the estimated average annual household income, was calculated the payment ability in comparison to the average household income which could be allocated to waste management services.

For the upper limit of affordability two possibilities were tested: (1) affordability to costs for waste management at 1% share of average annual household income; (2) affordability to cost of waste management at 1.2% share of average annual household income. This corresponds to the requirements for affordability applied by OPE 2007-2013 at project appraisal. In exceptional cases OPE 2007-2013 allowed for some years the upper limit of affordability to be increased to 1.5% of average annual household income.

Based on the average number of members of one household in the country is estimated the maximum affordable amount of municipal waste fee that one person can afford to pay for the waste management services. The product of this maximum affordable amount of municipal waste fee of one person and the estimated number of population provide the maximum annual amount of funds that can be accumulated annually from municipal waste fee from the population. Based on the amount, which in this case the population will pay per ton of waste, was made an estimation of the amount of municipal waste fee that can be collected from the business in compliance with the latest regulatory changes in defining the municipal waste fee, namely the fee to be determined based on the quantity of waste generated.

Estimations show that in the conventional level of affordability of 1% the revenue from municipal waste tax actually cannot provide any investment resources for the implementation of the selected scenario.

When the affordability threshold is 1.2% (only in exceptional cases it is assumed the rise of costs for waste management in the range of 1-1.5% of the average annual household income) and when the collection of municipal waste fee is 100% for the period to 2020, the revenue of municipal waste fee covers the operating costs for each year of the projected period, leaving a certain amount of resources that can be used for investment purposes. Under this assumption totally for the whole programming period 2014-2020 revenues from waste fee will cover 27% of the estimated investment (i.e. 354.5 million BGN).

Due to the expected low estimated budget by OPE 2014-2020 for the priority axis associated with waste management, it is necessary to develop various funding opportunities for the investment programme.

Possible solutions shall be sought within the framework of PPP, such as the opportunity to direct private investment in the construction of sorting facilities and waste pre-treatment facilities for recovery of household waste and preventing greenhouse gas emissions.

The investment programme of NWMP does not provide public funding for construction of MBT plants. At the same time part of the sorting facilities could be replaced by MBT where the public-private partnership mechanisms offer opportunities for municipalities to build such plants by attracting private investments. A successful example is the constructed and operating MBT facility in Varna.

The objectives, the selected alternative for their achievement and the programmes with measures were summarized in NWMP 2014-2020, as follows:

OBJECTIVE	PROGRAMME
Objective 1: To reduce the harmful impact of waste by waste prevention and promoting reuse	<ul style="list-style-type: none"> • National Waste Prevention Programme
Objective 2: To increase the amount of recycled and recovered waste by creating conditions for developing a network of facilities for treatment of all waste generated, thus to reduce the risk to the population and environment	<ul style="list-style-type: none"> • Programme for achievement of objectives for preparation for re-use and recycling of municipal paper, metal, plastic and glass waste • Programme for achieving the objectives and requirements for biodegradable waste including bio-waste • Programme for achievement of objectives for recycling and recovery of construction and demolition waste • Programme for achievement of recycling and recovery targets of wide spread waste /WSW/ • Programme for improvement of hierarchy of management of other waste streams and reducing environmental risk from municipal

	waste landfills
Objective 3: Waste Management ensuring a clean and safe environment	<ul style="list-style-type: none"> • Programme for improvement of institutional capacity on waste management • Programme for improvement the information quality in order to support informed management decisions making
Objective 4: Making the public a key factor in applying the hierarchy of waste management	<ul style="list-style-type: none"> • Programme for improvement the awareness and participation of population and business in waste management activities

This structure to a large extent bounds the objectives to the closest to their nature programmes. At the same time some of the measures in programmes such as:

- The programme for improvement of institutional capacity on waste management
- The programme for improvement of information quality in order to support informed management decisions making
- The programme for improvement the awareness and participation of population and business on waste management activities

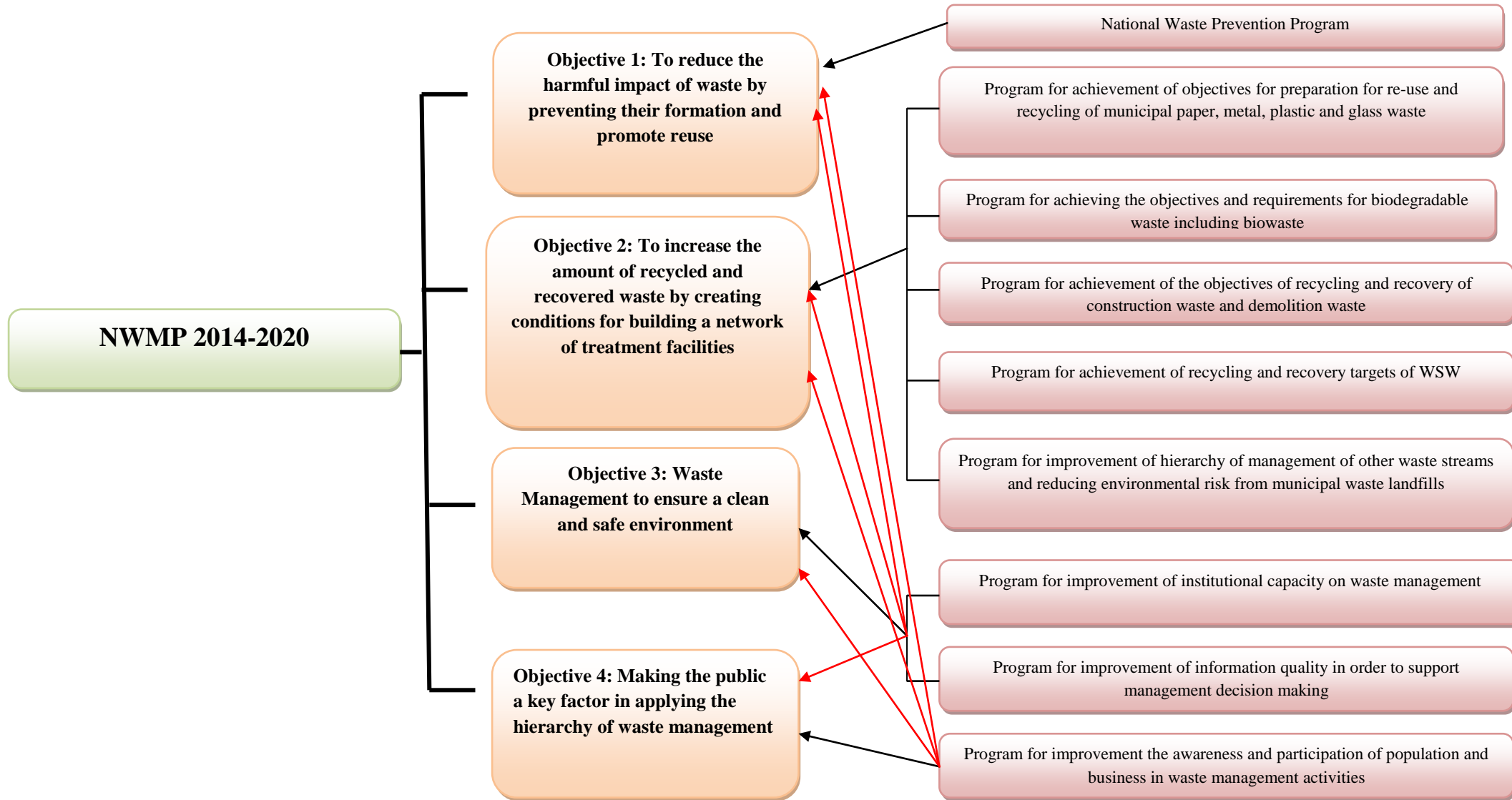
are so called "horizontal", i.e. they contribute not only to achievement of the directly related objectives but also other objectives of NWMP. Examples of such measures are:

- The development of municipal regulations on waste management in accordance with the requirements of the Waste Management Act
- The development of municipal waste management programmes in accordance with the requirements of the Waste Management Act and NWMP,

included in the Programme for improvement of institutional capacity on waste management and not repeated in other programmes though are relevant to achieving the set objectives.

The relation between the objectives and programs of NWMP is presented in the following diagram.

Relations between objectives and programmes in NWMP 2014-2020



The programmes include both investment measures and non-investment measures.

Investment measures include mainly development of infrastructure including: sorting facilities; composting / anaerobic digestion facilities; installation for incineration of RDF fuel for Metropolitan Municipality; cells for disposal; recultivation of discarded landfills; purchase and installation of containers for home composting; purchase of vessels and vehicles for separate collection and transportation of bio waste, etc.. Investment measures for different types of installations are evaluated based on the capacity of the facilities in accordance with the selected by MOEW scenario for the future development of policy on waste management in the next programming period and the average investment per ton / capacity from contracts by OPE 2014-2020 for development of regional systems of waste management. Investment measures for vessels, vehicles, containers for home composting, etc. are evaluated based on the respective number of vessels/vehicles, etc., identified as a result of analyzes and forecasts and the corresponding average prices based on market research.

"Non-investment" measures include activities such as: regulatory changes; establishment of new institutions; recruitment; training of personnel; preparation of calls for proposals; projects preparation; development of methodologies, instructions and other administrative acts; exercising control activities; information campaigns; development and implementation of information systems, etc. For part of these, estimation is based on information on the implementation of similar activities and expert assumptions. The other part of the "non-investment" measures are not evaluated such as the measures within the scope of activities performed by the institutions responsible for the implementation of the respective measure e.g. MOEW, RIEWs, municipalities and others and are financed by the budget for the activity of the relevant institution.

The approximate value of the evaluated by this approach programmes is presented in the following table.

PROGRAMME	Value/ (million BGN)
National Waste Prevention Programme	98,27
Program for achievement of objectives for preparation for re-use and recycling of municipal paper, metal, plastic and glass waste	242,71
Programme for achieving the objectives and requirements for biodegradable waste including bio-waste	678,04
Programme for achievement of objectives for recycling and recovery of construction and demolition waste	22,8
Programme for achievement of recycling and recovery targets of wide spread waste /WSW/	1,0
Programme for improvement of hierarchy of management of other waste streams and reducing environmental risk from municipal waste landfills	575,66
Programme for improvement of institutional capacity on waste management	19,8
Programme for improvement the information quality in order to	7,17

PROGRAMME	Value/ (million BGN)
support informed management decisions making	
Programme for improvement the awareness and participation of population and business in waste management activities	52,53
TOTAL	1 697,98

Each programme is presented by texts and tables. The text gives a brief description of the programme, and the table represents all the measures in the programme in a format in accordance with the methodological guidelines for developing action plan of Methodology for strategic planning in the Republic of Bulgaria, developed by the Council for Administrative Reform to the Council of Ministers, and one more additional column (source of funding) is included.

WFD requires member states to develop waste prevention programmes. In accordance with the respective texts of the WMA and taking into account the indicative prevention measures in Annex No. 4 of the WMA, the program contains:

- „Introduction and Background" of National waste prevention programme, which is developed as a separate programme, but as part of the NWMP of the period 2014-2020.
- Determination of waste prevention place in the waste management hierarchy
- Objective of the Program
- Possible groups of indicators for assessing the implementation of measures for waste prevention.
- Analysis and description of existing measures for waste prevention and evaluation of options for implementation of waste prevention measures set in Annex 4 of the Waste Management Act and the Framework Directive 2008/98/EC on waste or to implement other appropriate measures and proposal for measures indicators;
- Examples for good waste prevention practice
- Action Plan, in which for each sample standard measures in Annex No.4 of the WMA which are in compliance with measures in Annex No. 4 of the WFD, are developed national measures / activities to achieve the objectives of the program.

Since in Bulgaria for the first time through this program purposefully are analyzed the issues and are developed waste prevention policies it have been examined a number of methodological guidelines, programs and experience of other countries, reports the results of research projects in the area of waste prevention which are listed in Annex No. 1 to this program.

1. Introduction and background of the National waste prevention programme

1.1. Introduction

Prosperity in less use of resources and less waste generation is not only possible, but necessary. Earth's resources are limited, and this limits the possibilities for development of the ever-growing world population. Waste on the one hand is generated from the use of resources or products, and on the other - they have negative effects on the environment as a result of their treatment or disposal.

Decoupling economic growth the increasing use of resources, resulting in a negative impact on man and nature, is a major goal in the field of environmental policy. This guiding principle of sustainable development is not only a guide for governmental actions, but also is a measure of the decisions of the economy and society. According to Art. 29 point 1 of the WFD each EU Member State should develop a waste prevention programmes. Provided objectives and measures should lead to decouple economic growth and environmental impact associated with waste generation (Article 29, point 2 of WFD and art. 50 of WMA). Waste prevention measures should be understood as any measure that is taken before a substance, material or product becomes waste and which contributes to reduce the amount of waste and its harmful effects on humans and nature or content of harmful substances in the waste. According to the WFD (Article 3, point 1) and according to Bulgarian Waste Management Act (§ 1, point 17 additional provisions), "Waste" means any substance or object which the holder discards or intends or is required to discard".

It is particularly important to emphasize that waste prevention has the highest priority in the waste management hierarchy. The biggest environmental load from the manufacture of a product and that is precisely why these loads are reduced by waste prevention measures. Moreover, in this way also reduces the adverse effects due to incineration, transportation and storage. Ultimately waste prevention means not arise waste, not to produce products which must be recycled or disposed. Different options for waste treatment are always associated with difficulties and stresses for environment. The waste does not disappear just like that, but by landfilling and incineration, recycling even by just changing a substance. For example, incineration, even by the most modern technologies brings emissions and /or residues that need to be stored. Any disposal interference in nature, while not at 100% excludes harmful environmental impacts. In the best case, waste is recovered, but even in this case, there are loads due to the use of energy and water. Therefore, the most adequate response to the problems of waste includes steps ahead of waste, namely, the waste prevention.

Simultaneously, waste prevention is with significant contribution to the long overdue transition to efficient use of resources. The extension of time for use of the products, or reuse of products normally discarded after a single use, has as a result, reduced use of resources of the planet, not just prevent adverse effects on the environment from discarded more waste as a result of the shorter use of these products. Therefore, the implementation of waste prevention measures contributes to the achievement of EU and national targets for efficient use of resources.

This transition, however, must be done so that it does not lead to a decrease in wealth and economic growth. That is not a question of having a competition between environmental and economic policies, but to use economy to meet the environmental requirements.

In relation to waste prevention constantly requires the prohibition of one or another product. Before the implementation of bans on certain products or consumption of certain goods is, however, legal, often European - legal obstacles because of a restrictive influence on the actions of the individual. There are cases where there are economic and social reasons for the failure to introduce a ban. Problematic is also the fact that very often cannot be accurately determine alleviate the environmental impact of a product ban and thus lacks a basis for evaluation of the action to its benefits. In this context, measures to prevent the waste are placed in a restrictive framework. However, it should be emphasized that the primary purpose of increasing the efficiency of the outcome and reduce costs in the economies of many countries, especially in manufacturing, undertook a number of measures aimed at the prevention of waste. Binding measures to prevent waste, however, need a clear legal framework. Implementation of measures to prevent waste can be problematic in some cases because of the complexity of the different production processes and the legal necessary measures be designed so that they are economically viable and technically feasible. The aforementioned considerations lead to the *conclusion* that only legal measures are not enough. There should be voluntary and self-limiting measures by all participants in public life, such measures should be explained to help them create and implement, to give advice to businesses and households. This "softer" instrument of waste prevention enables a wide range of measures and achievement of positive results.

1.2. Key stakeholders in waste prevention activities

1.2.1. State

The state should create effective conditions and regulations to support the participants in the activities of waste prevention to fulfill its obligations under the WFD and WMA. For this purpose, the state can provide the relevant legislation, as other taxes and/or fees that stimulate production or consumption with less waste. The state may also be governed by statutory instrument even bans on certain products if it is not contrary to European standards, and the determination of liabilities, such as mandatory redemption restrictions in distribution, regulation of transportation, storage and treatment of waste, etc. Moreover, under Art. 49 and Art. 50 of the WMA state is obliged to implement measures to plan and prepare waste management plan and waste prevention program. The introduction of licensing and registration regimes is also duty of the state, which is regulated by WMA.

1.2.2. Municipalities

Municipalities are responsible for waste collection in their territory by performing this activity individually or through regional associations. Under Art. 52 of the Waste Management Act, they are required to prepare waste management programmes, which structure, goals and projections meet NWMP, including WPP, by virtue of the WMA is an integral part of NWMP. In municipal programs and regulations for waste management can be included very specific measures for such as limiting the use of disposable utensils at public events.

1.2.3. Economic and scientific entities, NGOs

In order to prevent waste the operators supported by the scientific community can develop products and production processes that are environmentally friendly and less waste and optimize existing processes and products. Products put on the market must be longer long life, easy to repair and produced and marketed without unnecessary packaging. The operators,

supported by scientific organizations can take measures to waive the production of environmental-friendly products. So far, that refusal is more voluntary and driven by marketing or other reasons, but it can be made compulsory in the development and enforcement of relevant laws, regulations and standards. NGOs that support the ideas of a society striving for zero waste can create platforms and voluntary networks of all operators who are willing to contribute to the implementation of these policies.

1.2.4. Households

Although major amounts of waste are not generated by households, respectively from end buyers, measures to prevent waste are directed at the majority of them. Each user can restrict the purchase of goods that lead to a lot waste generation and thus to force manufacturers to stop or at least reduce the production of such goods. At this stage it means the user has this consciousness that even be willing to tolerate restrictions in their "comfort", respectively, to put more effort and time. Therefore, real and existing waste prevention among consumers can be expected when the market offers enough goods and services that are efficient from an environmental perspective.

1.3. Content and structure of waste prevention programme

According to Art. 29 point 1 of the WFD each EU Member State should develop a waste prevention programmes. Provided objectives and measures should lead to decouple economic growth and environmental impact associated with waste generation (Article 29, point 2 of WFD and art. 50 of WMA).

When developing the waste prevention program, the requirements of Art. 29 (points 2 and 3) of the WFD should be met, according to which should describe the existing measures to prevent waste and to evaluate the usefulness of those listed in Annex IV of WFD model measures or other appropriate measures. In addition, Member States shall determine appropriate specific qualitative or quantitative indicators for measures of waste prevention. Based on these requirements Waste prevention programme of Republic of Bulgaria is divided into the following parts:

- Analysis of waste management hierarchy including the definition of waste prevention and distinguish measures of hierarchy (point 2 of the Programme)
- Basis of goals setting (point 3.2.)
- Formulation of waste prevention objectives (point 3.3.)
- Determination of specific qualitative or quantitative indicators for waste prevention measures (point 3.4.)
- Suggested measures under the WFD and WMA (point 4)
- Examples for best practices in the EU and USA (point 5)
- Examples for best waste prevention practices in Bulgaria - analysis of existing and suggestions for new (point 6)
- Action plan for the implementation of national waste prevention measures.

2. Waste prevention - definition and its place in waste management hierarchy

2.1. Definition

Waste prevention is defined in Article 3, point 12 of the WFD, respectively in § 1, point 28 of the AS of WMA as:

“Measures taken before a substance, material or product has become waste, thus reducing:

- *the amount of waste, including through the re-use of products or the extension of the life span of products;*
- *the adverse impacts of the generated waste on the environment and human health; or*
- *the content of harmful substances in materials and products”.*

In order to clarify the definition its individual components can be explained in more detail in the following ways:

Quantitative and qualitative prevention

While reducing the amount of waste is called quantitative prevention of waste, the reduction of the content of harmful substances in the materials and the products are referred to as high-quality waste prevention. Both aspects are closely linked and should not be regarded as independent, but rather as complementary. It is wrong to believe that if the waste or its treatment itself is not detrimental, this waste should not be prevented. The treatment itself consumes energy, water, space, etc. Only in the event that a product has been produced, it would not become a waste, i.e. in the case of 100% quantitative prevention will not have a high quality, and prevention. However, since such a case is unrealistic or too little, it is clear that for each product has to be applied both aspects. When there is no quantitative prevention, it does not mean that there should be no quality prevention, and vice versa.

Prevention in the phase of design

Prevention is a horizontal measure covering all phases of the materials flow - extraction, production, distribution and consumption. Preventing of waste is not just one of those phases. The sooner you implement prevention measures, the more effective they will be. In this sense, measures taken in the phase of design and pre-design would have a greater positive effect. Prevention during design is to be taken even in the phase of making technical decisions. This includes not only the eco-design of products, but also strategic development in terms of economic indicators, market position, planning costs, etc., and the use of technologies that require less material, use of less hazardous substances less packaging, less moving and less storage.

2.2. Waste hierarchy

2.2.1. General provisions

Legislation and policies for waste prevention and waste management apply as a priority order the following the waste hierarchy:

- (a) prevention;
- (b) preparing for re-use;
- (c) recycling;
- (d) other recovery, e.g. energy recovery; and
- (e) disposal.

When applying the waste hierarchy, Member States shall take measures to encourage the options that deliver the best overall environmental outcome. This may require specific waste streams departing from the hierarchy where this is justified by life-cycle thinking on the overall impacts of the generation and management of such waste. Member States shall ensure that the development of waste legislation and policy is a fully transparent process, observing existing national rules about the consultation and involvement of citizens and stakeholders. Member States shall take into account the general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources as well as the overall environmental, human health, economic and social impacts. Clear definitions are crucial for the accurate determination of the levels of the hierarchy of waste management, thereby avoiding cases of incorrect application of the hierarchy. Generally, it should be stressed that the fact that the operator describing, in accordance with the definitions of terminology in WFD or the national law does not automatically mean that it is exactly this operation; specific circumstances of the proposed transaction should always be considered when assessing whether the definition is satisfied. The definition of "waste prevention" was detailed in the previous paragraph. But it is necessary to consider the other four activities in the hierarchy in order to create a clearer picture on the one hand, what is the difference between prevention and other activities and the other to distinguish between each activity.

2.2.2. What does "re-use" mean

Article 3 (point 13) of the WFD, respectively § 1, point 23 of WMA gives the following definition of "re-use", "re-use' means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived" . Reuse means to prevent waste; and it is not waste management activity. For example, if a person receives a material cloth directly from the current owner with the intention of using it again (even if they need some repairs) for the same purposes, this is evidence that the material is not a waste.

2.2.3. What does "preparing for re-use" mean

The definition of "preparing for re-use" (Article 3 (point 16) WFD, respectively § 1, point 25 WMA) is "means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing. "By definition, preparation for re-use is a specific case of recovery (see 2.2.4 below). The main difference between "re-use" and "preparation for re-use" is that in the first case the material or article has not become waste, while in the case of "preparing for re-use" the material in question has become waste within the meaning of the definition of waste. *Examples of preparation for re-use include the repair of bicycles, furniture or electrical or electronic equipment, of which their holders are freed.*

2.2.4. What does "recovery" mean

Definition of the term "recovery" is one of the key concepts of the WFD (Article 3 (15), respectively § 1, point 13 WMA). "Recovery" on one side is the opposite term of "disposal" and together constitute „waste treatment" (see Article 3 (14) of the WFD, respectively § 1, p 44 WMA). Any waste treatment can be either a recovery or disposal operations. EC expressly held that any activity can be defined as both a recovery and disposal. In short, the disposal operations are primarily operations waste management aimed at waste disposal while the main result of the recovery operation is "any operation the principal result of which is waste

servicing a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy (see Art. 3 (15) WFD) recovery, which is newly introduced in the WFD, is divided into three sub-categories: preparation for reuse, recycling and other recovery.

2.2.5. What does “recycling” mean

Definition of the term „recycling“ according article 3 (17) of WFD, AND § 1, p.37 WMA: “recycling’ means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operation.”

The general idea of recycling is that a material is processed to change its physicochemical properties and that to allow it to be used again for the same or for other purposes. The main objective of the Waste Framework Directive is EU to become more than a "recycling society", seeking to avoid waste and uses waste as a resource (see recital 28 in the preamble to the WFD).

The specific activities of waste management, which is classified as recycling in WFD include (but not limited to):

- Recycling of materials: e.g. plastic products and components in plastic materials, melting of waste glass for glass products, use of waste paper in paper mills, etc.
- Production of compost meeting the criteria for quality of products. Recycling involves physical, chemical or biological treatment, which results in a material which is not waste. Article 3 (17) of the WFD not require any particular characterization of the activity of the working or processing, while generating the same material that is used as the original, or for other purposes and thus closes the economic range of the material. WFD exception to this rule is reprocessing into materials that will be used as fuels or for backfilling operations, as they are excluded from recycling and constitute "other recovery" under the WFD.
- From the definition for recycling in WFD it follows that only the processing of waste into products, materials or substances may is considered as recycling. Processing of waste, which produces waste that undergoes further subsequent steps for recovery, is not accepted as recycling but as a pre-treatment prior to recovery. Such activity should be classified as a "preparation before recovery or disposal" or "pre-treatment" before recovery. The latter includes activities such as dismantling, sorting, crushing, reduction of volume stacking, drying, repackaging, separating, blending, etc. These activities do not fit to any level of waste hierarchy and therefore may be considered as "preceding" specific types of recovery. For example, biological waste treatment, in order to stabilize waste before bulk operations should be classified as pre-treatment prior to "other" recovery, and not as a recycling process.

2.2.6. . What does “other recovery” and “disposal“ mean

Other forms of recovery are not mentioned in the definition section, but are outlined in Art. 4 (1) of the WFD where recycling ranks after other forms of recovery. "Other recovery" is any activity that meets the definition of "recovery "in WFD, but that does not meet the specific requirements for preparation for re-use or recycling. Examples of other recovery are:

- incineration or co-incineration where the principal use of waste is as a fuel or other way of energy generation. This is the operation of waste management with energy recovery classified as R1 in Annex II of the WFD R1 respectively in Annex 2 of § 1, point 13 of the WMA. This contrasts with the waste incineration without energy recovery, classified as a disposal operation D10 in Annex I to RCD, respectively D10 in Annex 1 of § 1, point 11 of the WMA. In determining whether burning in incinerators designed to burn solid waste can be classified as R1 or D10, in accordance with the criteria of energy efficiency, the EC guidelines should be used as a landmark.
- backfilling operations meeting the definition of recovery in § 1, point 10 of WMA.

According to Article 3 (19) of WFD, respectively § 1, point 11 of AP of WMA, the definition for „disposal" is "any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy". From this definition it follows that any activity of waste treatment which does not meet the criteria of the definition of recovery is considered for disposal. The definition of "even where the operation has as a secondary consequence the reclamation of substances or energy" reflects the idea that any recovery operation must meet the criterion that "basic result" is the "use of waste for useful purpose" by replacing other materials that would otherwise be used to accomplish this goal.

3. Waste prevention objectives

3.1. Basic statistical data

The analysis of the presented data below in tabular form shows that Bulgaria is a country with relatively good trend in recent years to reduce the waste generated per capita, but trails behind in the score of landfilled municipal waste. From this it can be concluded that in the future economic development and improved living standards in Bulgaria must continue to increase and reduce the amount of waste generated by most effective method for this is to prevent waste.

Table 1. Generated waste - kg / inhabitant / year

	2008	2010	2012
Average for EU-27	520	506	492
Bulgaria	599	554	460

Source: Eurostat

Table 2. Landfilled municipal waste - kg / inhabitant / year

	2008	2010	2011
Average for EU-27	199	186	162
Bulgaria		411	318

Source: Eurostat

The amount of generated construction waste and packaging waste is much lower than the average European level (see Tables 3 and 4 below). Favorable compared to the EU average is the statistics on the amount of industrial waste (Table 5). However, similar to the case with municipal waste is associated with a low standard of living, respectively, with lower volume production and the crisis in the construction industry in the last few years, and is not a result of deliberate policies for prevention. Regardless of the reasons, it is important in case of those factors change do not increase the amount of waste generated per unit of GDP. It should be

emphasized again that the most appropriate way is to take prevention measures on time and in effective way.

Table 3. Construction waste- kg / inhabitant / year

	2004	2006	2008	2010
Average for EU-27	1563	1692	1717	1713
Bulgaria	385	133	240	10

Source: Eurostat

Table 4. Generated packaging waste- kg / inhabitant / year

	2005	2007	2009	2011
Average for EU-27	160,4	163,8	153,1	159,4
Bulgaria	67,2	41,6	40,1	42,8

Source: Eurostat

Table 5. Industrial waste- kg / inhabitant / year

	2004	2006	2008	2010
Average for EU-27	746	693	685	584
Bulgaria	721	561	452	439

Source: Eurostat

3.2. Basis for objectives formulation

As already stated in Section 2.2.1, both the European and the Bulgarian legislation determine a five-step waste hierarchy. This hierarchy should however not be seen as completely "static" and must be understood that prevail these actions that lead to the fulfillment of the main objective, namely breaking the link between economic growth and the associated harmful effects on humans and the environment because the waste (Article 29, paragraph 2 of the WFD and art. 50 of the WMA). Or, in other words – prevention is substantial goal, but it is not in itself. In this context, prevention measures should not be recommendable, if do not lead to an overall reduction of harmful effects on the environment and human health. This will happen if there is a use of old equipment compared with the use of one or more new equipment does not lead to savings in energy consumption. The situation is similar also in case large-volume products are replaced with smaller to reduce the amount of waste, but these small-volume products contain more harmful substances for human and environment.

In determining the objectives it should be taken into account that waste disposal has not only „subsequent" negative effects, but also "preceding" effects relating to the production of products and hence waste. These preceding effects are particularly important and they do not relate only to prevention measures related to the final consumer, and are determined by the previous levels of design, production and trade. In this sense, prevention goes beyond law and policy on waste in their narrow sense.

Besides the environmental impact, in evaluating prevention measures is also important to take into account technical capabilities to implement their compliance with certain political and economic objectives such as maintaining and improving the living level of economic competitiveness, security jobs, the best way to achieve the goals of "social justice" in society, etc.

In the Bulgarian legislation (Art.31-34 of WMA) are defined targets for management of certain types of waste, respectively, for their reduction. According to these objectives by 2020 the amount of biodegradable waste must be reduced by at least 35%; reused, recycling and recovering of construction waste should reach 70% of their total weight, while waste material from paper, cardboard, metal, plastic, glass and other waste should reach - 50%. Systems for separate collection of packaging must cover not less than 6 million residents, as include all settlements with more than 5000 inhabitants.

Identification of specific quantifiable goals is very important part of the measures for waste management. The implementation of these quantified targets shows achievements in the reporting of program implementation. Purely quantitative reduction is not sufficient objective of environmental policy, as this reduction cannot always be linked to the reduction of the negative impact on the environment and human health. Unfortunately, there is still no universal indicator taking into account the link between the decrease in amounts and reduced impact on the environment and health. Therefore, it is particularly important that the program must also include quality objectives for prevention within the meaning of the WFD and WMA. Such a goal is as significant reduction of wastes containing hazardous substances for human health and environment (mercury, lead, cadmium, etc.).

It must be borne in mind and the question if waste reduction is the result of measures taken under the program and how circumstantial reasons such as reducing construction crisis would lead to quantitative reduction of construction waste. The introduction of goals that are not directly quantifiable allows greater flexibility in the choice of tools for prevention. The guiding principle in this case is *ex ante* (in advance) selection of measures for prevention that look most promising to prevent the harmful effects of waste on the environment.

3.3. Defining the objectives for waste prevention

Based on described in the preceding paragraphs and achieve greater clarity in prevention program the objectives can be summarized in three groups:

Main objective assisted by **operational objectives** which fulfillment in turn is achieved through a **package of measures**. Both main and operational objectives are stated clearly in WFD and in Bulgarian WMA. The objectives are:

Strategic Objective (Article 29, point 2 last sentence of WFD)

The aim of such objectives and measures shall be to break the link between economic growth and the environmental impacts associated with the generation of waste.

Operational objectives (Article 3, point 12 WFD and § 1, point 28 WMA)

- Reduce the amount of waste
- Reduce harmful effect of waste
- Reduce the content of harmful substances in materials and products

Described prevention targets are part of the overall complex policies on sustainable development, the realization of the objectives and measures should take into account the social and economic aspects.

3.4. Analysis of possible indicators to assess the progress of prevention measures

Identification of indicators for the success of prevention program is extremely difficult. As mentioned in the research report of ARCADIS, "to measure prevention means to measure non-existent amount of waste, and to measure quality means to measure damage which did not take place".

According to Art. 29, para. 3 and 4 of the WFD, "specific qualitative or quantitative benchmarks" (indicators) should be determined by which the progress of implementation of measures in waste prevention can be measured and monitored. Under the EU Directive, each Member State may establish its own indicators while taking into account the possibility that indicators may also be defined by the procedure of adopting common European standards.

Thus formulated task of WFD indicates that at this stage there are no universal and common indicators, from which it follows that in the field of indicators as evidence of success of measures in waste prevention, future research and inspection is required. It should also be noted that the WFD requires from Member States to set indicators to assess the success of measures in waste prevention. This obligation is defined in Bulgarian law (art. 50, para. 1 and para. 3 pt. 4 of WMA). Under these provisions, the Minister of Environment and Water shall develop and submit to the CoM a program on waste prevention, which "includes indicators for assessing the implementation of measures to prevent waste".

Defining common European indicators or at least the major part of them would be the best approach, but since such indicators presently do not exist, it is obvious that each Member State has to identify its own indicators. Very often, the amount of waste is used as an indicator to determine the success of measures on waste prevention. For example, in the program of Austria, quantitative indicators by type of waste are defined as "core indicators". At the same time, the Austrian program also offers "extended indicators" to be determined when possible to measure the mass of hazardous substances, the rate of recycling and the mass of landfilled construction waste or for household waste - the mass of hazardous substances, the mass of food waste, etc.

As already mentioned, using as indicator the amount of waste in different waste streams (municipal waste, construction waste, packaging waste, etc.), it is impossible to most accurately determine the causal relationship between the measured quantity and the success of measures on waste prevention. I.e., quantitative indicators give necessary but not sufficient data to assess the success of measures in waste prevention.

Considering the above-described situation in the program of the Federal Republic of Germany, indicators are divided into three main groups, namely:

Indicators for individual measures that directly affect waste generation

- reuse - appliances: re-use old equipment in relation to the reported amounts of old appliances types of appliances and the change from the previous year to other base year;
- reuse - packaging: the amount of used packaging in multiple species when taking into account total quantity of the relevant type packaging;
- prohibition of certain substances: number of products for which there is prohibition of certain substances, method of application of the prohibition of substances and substitution of hazardous substances with other less danger;
- permits: number of permits for facilities that seek permission under quantitative or qualitative prevention and reduction of waste and the success of which is controlled;

- systems for environmental management: number of companies with environmental management systems aimed at quantitative or qualitative prevention or reduction of waste and which achieve the control objectives.

Those examples show that by these indicators for specific measures may be estimated the frequency of application of a certain success promising measure and the success of measures in waste prevention. A prerequisite for this is the statistical coverage, respectively, the possibility of statistical coverage, the actions and/or quantities related to a specific measure. By calculating the measure applied to the corresponding total quantitative flow, the mass of waste avoided in the area for a specified period can be determined. The more specific a measure, the more precisely measurable the success of this measure in waste prevention, and vice versa - changes in the amount of waste can serve for drawing conclusions about the impact of certain measure.

Indicators for measures which do not affect directly waste generation

Examples of such measures include raising public awareness of waste, various trainings, support to research projects, etc. As indicators in these cases can be used "Number of trainings in a region" or "Number of citizens living in regions where waste fees are defined justly on the polluter pays principle".

These indicators can also serve to measure the frequency of application of a certain success promising measure in waste prevention, but it is impossible to directly draw conclusions about the success in waste reduction.

Other specific indicators. Examples of this are, on the one hand, "intensity of waste", defined as the amount of waste in different sectors (industry, agriculture, forestry, construction, services) and, on the other, development of "productivity of resource use", defined as gross domestic product (GDP) related to internal direct use of materials.

The "intensity of waste" indicator can clarify the impact of measures for waste prevention in a given industrial sector. Thanks to the relation to GDP, the "productivity of resource use" indicator makes it possible to assess the main objective of measures in waste prevention, namely breaking the link between economic growth and the related harmful effects on humans and the environment as a result of waste generation.

In determining the indicators in the *ORDIS report*, four main tasks are listed as a result of which three main groups of indicators are identified. These tasks include:

- Define a general framework of indicators for waste prevention;
- Define different methods of calculation and evaluation of indicators within this general framework;
- Identify specific indicators for various specific categories of actions;
- Create a web-based tool aimed at facilitating both public authorities and other actors in measures on waste prevention. The main tasks of the website are to assess in advance the potential or the effect of an action, and to help the monitoring of implemented actions.

Indicators in turn are grouped into **resource indicators** (financial resources, personnel, equipment, etc.), **outcome indicators** (behavioral change and awareness of people participation in waste prevention activities, development of generated waste and in particular the collected amounts, potential and effectively avoided amounts) and **impact indicators** (environmental indicators such as consumption of materials or energy, air pollution, defined

in greenhouse gas emissions, financial indicators such as balancing costs, benefits and savings, social indicators such jobs creation, etc.).

In developing the Bulgarian program, account is paid for both the specific difficulties in finding indisputable and universal indicators as well as the experience of other member states and different projects assigned by the EC. As a result, it is aiming to find the most reliable indicator of success of each of the measures listed in Annex IV to Article 29 of WFD, respectively Appendix 4 to Art. 50, para. 3 pt. 2 of the WMA. In developing the Action Plan to the waste prevention program, the approach is used recommended in the Methodology for strategic planning, April 2010, approved by the Council for Administrative Reform, established as an advisory body to the CoM. In accordance with this methodology, in the Action Plan are determined current and target indicators to monitor the implementation of specific measures.

4. Waste prevention measures according to Annex 4 to Art. 50, para. 3, point 2 of Waste Management Act and Annex IV to Art. 29 of the WFD and their application in Bulgaria

Annex No.4 to art. 50 of Bulgarian Waste Management Act, just as in Annex IV to art. 29 of the WFD are listed 16 examples of prevention measures. Each of these measures is discussed below, as it is observed following single structure. First point is the "nature of the measure", then comes the point "past and future application possibilities" and the third point is possible "indicators" to track the success of the measure.

A large part of the proposed measures provide training, voluntary agreements, raising awareness, etc., so that the participant or participants in the process can make informed and conscious decision to act for waste prevention. In this relation as a kind of horizontal measure is proposed the creation of a public National Committee for Waste Prevention (NCWP) as an advisory body to the Minister of Environment and Water. The general purpose of this committee is to coordinate the implementation of the National Programme for Waste Prevention, and initiate new, concrete measures for waste prevention by branches and/or waste streams. Members of this committee include representatives of other state institutions, research organizations, industry organizations, whose activity is related to waste management. Gradually, its composition can be expanded, and depending on the discussed topic various branch organizations of the business can be attracted; for example, associations of hoteliers and restaurateurs can be attracted in connection with the measure on food waste prevention. Producers and traders of food and representatives of MAF can also be involved in this topic. Regarding projects related to the extension of lifecycle of products and the application of eco-design, the involvement of scientists is appropriate, while discussions on potential changes in tax legislation aimed at promoting waste prevention require the participation of representatives of the Ministry of Finance and business organizations (CEIBG, BIA, etc.). In order to avoid repetitions, both in this subsection 4 of Chapter VIII, and in the summary table (Annex) is used the abbreviation of the National Committee for Waste Prevention (NCWP) with brief explanation, such as "the topic is considered by NCWP".

4.1. Use of planning measures, or other economic instruments promoting the efficient use of resources

4.1.1. Nature of the measure

The contents of this measure can be divided into two groups of activities:

- development of plans and programs by state and municipal authorities, and
- implementation of economic measures, also with two sub-groups:
 - introduction of additional payments for the use of resources
 - conditions for grant.

Under Bulgarian law, the state through the Minister of Environment and Water, shall develop a National Waste Management Plan and Waste Prevention Programme, which is an integral part of the plan (Art. 49 and Art. 50 of WMA). The mayor of the municipality also develops waste management program, which is part of municipal environmental program and is in accordance with the structure, objectives and provisions of the NWMP (Article 52 of WMA). The mayors of several municipalities, if they are included in the regional association can develop region program for the region.

Introduction of additional payments (eco tax, taxes, concession fees, etc.) for use of natural resources aims reducing the amount of resources used in production and thus reduce the amount of waste that would occur.

In the case of a grant it is necessary to assess the impact of subsidized production or service on the environment. Provision of subsidies for industries or services degrade the environment and in particular on the policies for the prevention, should be stopped or at least significantly limit.

4.1.2. Past and future application possibilities

Although that already are developed and adopted various programs in the field of the environment as a whole and particularly in the field of waste management should be emphasized that in this program for the first time provide specific interrelated measures to in Bulgaria. As already mentioned such programs should develop and municipalities and the Ministry of Environment and Water, will develop guidelines for municipalities, which measures in accordance with their competencies should be included in their programs. In connection with the possible introduction of additional payments for the use of resources, it is appropriate to analyze in which cases it is possible and appropriate. Limiting subsidies is one way for the conversion of such procedures or services in more environmentally friendly with less waste. It is therefore recommended to make investigation of opportunities for grants, in cases where there are specific prevention measures. It is in this analysis to include the current practice of granting subsidies. An appropriate measure introducing additional payments for use of resources and to assess the conditions of subsidy shall be included in the program of the NCWP.

The implementation of national and institutional strategies and programs for "electronic government", apart from direct effects on the public and business, has significant contribution to the policy for and effective use of resources. Viewed in this aspect unleashed coverage measures will prevent the use of tens of thousands of tons of office paper and related supplies, which amounts to prevent tens of thousands of tons of waste.

The National Program for financial support of energy efficiency of Bulgarian homes in the long term can be considered as a significant measure for waste prevention and effective use of resources, since life of housing is significantly prolonged in this way.

4.1.3. Indicators

Since it is difficult to measure the exact effect of the quantitative and qualitative prevention achieved as a result of implementation of this measure, suitable indicators of its success can be valuable indicators such as number of prevention programs developed by municipalities include prevention, number of completed measures of national and local prevention programs, number and/or value of the introduced additional eco-payments for use of natural resources, quantities less natural resource use, number and / or value of the subsidies are not granted due to insufficient measures to prevent compared with those awarded in previous years. Number of adopted and implemented decisions of NCWP.

4.2. Promotion of research and development into the area of achieving cleaner and less wasteful products and technologies and the dissemination and use of the results of such research and development

4.2.1. Nature of the measure

On one hand, the measure is designed to help clean development and research leading to reduction of waste in products and technology. On the other hand, it is necessary to promote the dissemination of the research results and their implementation in many industries.

4.2.2. Past and future application possibilities

Targeted activities under this measure in the sense of not been taken so far. In Bulgaria there is a fundamental opportunity for research funding through both national and European funds. Examples are the National Fund "Scientific Research", the Seventh Framework Programme for Research, etc. Within the development strategy document "Roadmap to a Resource Efficient Europe" the European Commission focuses on funding for such research that lead to achieving the most efficient use of resources. Ministry of Education and Science in partnership with the Ministry of Environment and Water may develop rules for applying for funds under the National Fund "Scientific Research". Operational Programme "Science and Education for Smart Growth 2014-2020" is also an opportunity for research funding. Another possible measure is the scientific institutes of BAS to develop a strategy for application by the Bulgarian business together with research institutes for funds under the programs and funds. Besides development of environmentally friendly technologies and products Bulgarian science can participate and examination of leading foreign experience and adapt it to specific industries in the country. Considering this measure is also appropriate to be present on the agenda of NCWP.

4.2.3. Indicators

The direct effect of this measure is also difficult to measure in terms of quality and / or quantity prevention, therefore, in themselves scientific developments must contain an objective and accurate assessment of the effect the purposes of prevention. Appropriate indicators are number of projects implemented, number of results embedded in the economy, number of branches, which can be embedded results. Number of adopted and implemented decisions of NCWP.

4.3. Development of effective and meaningful indicators of the environmental pressures associated with the generation of waste aimed at contributing to the prevention of waste generation at all levels

4.3.1. Nature of the measure

Both in the WFD and the WMA is formulated an obligation for Member States to develop qualitative and quantitative indicators to measure the success of prevention measures. As explained in detail in section 3.5., development of universal indicators is virtually impossible at this stage or would involve inappropriate burden of business and administration in the collection of statistical data that can guarantee a hundred percent reliability. However, it is important to emphasize that the implementation of prevention measures, although some additional administrative effort had a positive impact on business, for example by reducing costs and hence optimize results, higher sales, entering new markets, etc.

4.3.2. Past and future application possibilities

So far Bulgaria has no indicators for prevention. It is therefore necessary to examine whether the creation of one or other indicator will lead to a very large administrative burden for both the business and the administration, that is, whether the collection of information would be appropriate. Examples of indicators could be the following:

- Quantitative indicators by types of waste

In the EPA and NSI there is information about the quantity of waste by type, but there is no analysis of whether the change of these quantities is the result of measures implemented to prevent or to other factors such as an increase in GDP, change in the number of residents, etc.

- Introduced bans on certain substances

There is European and Bulgarian product legislation introducing ban on the use of certain substances, e.g. for toys, batteries, battery packs, electrical and electronic equipment, etc., but there is no systematic collection of information for the purposes of waste prevention.

- Number of permits issued, which provides application of measures for quantity and / or quality prevention

No information is collected on this indicator.

- Enterprises implementing systems for environmental management (EMAS, ISO 14001, eco-labeling)

There is statistical data for companies certified under EMAS and Ecolabel, and MOEW keeps special registers, but no institutionalized statistics exists on ISO14001.

- Number of campaigns to increase knowledge and awareness at the national level, the local level, among business representatives and among state and municipal employees

There is not targeted monitoring and information.

4.3.3. Indicators

Appropriate indicator to measure the success of the measure is the number of introduced and / or established indicators specifically for the purpose of waste prevention.

4.4. Promotion of environment-friendly design (systematic integration of environmental aspects into product design with the aim to improve the environmental performance of the product throughout its whole life cycle)

4.4.1. Nature of the measure

This measure also may cover several aspects. On the one hand it is raising awareness of designers and engineers on the possibilities of designing and manufacturing products that lead

to prevention. The purpose of these state supported campaigns is to raise the awareness of participants in design and manufacture, so that they on their own initiative design products with "better environmental behavior". Partial aspects of this measure overlaps with a second measure to promote research activities in the promotion of the results of this research. The specific objective of the measure is to improve the "environmental performance" of a product throughout its life cycle. Requirements for such actions are contained in Directive 2009/125/EC, the so-called Eco-design Directive. Improve the "environmental performance" means to produce such products whose parts are easily replaceable, the product is easy to repair and re-use product that is designed so that its life cycle is longer.

4.4.2. Past and future application possibilities

In the EU there is a discussion to which products can be applied specific criteria to extend the life cycle in the above described sense. One particular example of good practice is Regulation 1103/2010 laying down rules on capacity labeling of portable secondary (rechargeable) and automotive batteries and accumulators in accordance with Directive 2006/66/EC of the European Parliament and the Council. As stated in section 1 of the preamble to the regulation, by its provisions can be achieved reducing the amount of waste by increasing the average lifespan of secondary (rechargeable) batteries.

Adoption of such criteria at **Community level** and their transposition into national law (in Bulgaria it is the Law on technical requirements for products and related regulations) would be an excellent way to achieve realistic goals for prevention. In Bulgaria in force a number of regulations on permissible content or bans on harmful substances, such as vehicles, EEE, batteries, waste oils, packaging, etc. adopted on the basis of relevant EU documents. The introduction of such prohibition constitutes "quality waste prevention".

A good example of prevention is introduced at Community level requirements for standardization of chargers for mobile phones, which is achieved due to the proposal and the active participation of representatives of Bulgaria. Next logical step in this direction is the unification of electronic and electrical devices to connect to each other. For the implementation of such initiatives is possible to apply with projects under the Seventh EU Framework Programme for research, the findings of the project can serve to Bulgaria and to initiate changes in product legislation at EU level. In the development of detailed rules on the same priority axis and that the OP is appropriate to include as eligible and priority projects for the development of new product design and technology, requiring less natural raw materials containing less hazardous substances generated less waste after use of the products as well as products and technologies with better "environmental behavior". Possible measure is the award of the state of development of eco-design for different industries or groups of products under strict regulations on copyright protection and rules on state aid.

4.4.3. Indicators

Successful projects, number of products manufactured by Eco-design conducted information campaigns, number of designers and planners, reached by information.

4.6. Organize training of competent authorities regarding requirements for the prevention of waste in permits under Art. 35, 1 of WMA

4.6.2. Past and future application possibilities

Bulgaria has conducted numerous trainings for IPPC permits and permits by the WMA, but must be held for such targeted. An excellent opportunity is to support such training by OPE 2014-2020, under Priority Axis 6 including about making plans for training programs.

Particularly important is that training programs are intense, cover all components of the environment and are held regularly, not once.

4.7. Inclusion of measures to prevent waste production at installations not falling under Annex 4 of EPA. Where appropriate, such measures could include waste prevention assessments or plans

4.7.1. Nature of the measure

This measure intends to include measures to prevent and categories of industrial activities that do not fall within the scope of Annex 4 to Art. 117, 1 of the EPA. In this annex are regulated the industrial activities requiring IPPC permit, i.e. the purpose of this measure is that industrial activities other than those listed in Annex 4, shall also provide for measures on waste prevention.

4.7.2. Past and future application possibilities

Permits shall be issued in accordance with Bulgarian and European legislation, but the administration has not been such a target for the purposes of preventing and therefore no targeted information on prevention. As already mentioned the body issuing permits is concerned RIEWs. To avoid unwanted attempts for arbitrariness of administration to the business, it will be useful that MOEW develops in advance detailed methodological guidance on how RIEWs shall apply the measure.

4.7.3. Indicators

Number of permits including a waste prevention requirement, amount of avoided waste as a result of permits including waste prevention measures.

4.8. Use of awareness campaigns or provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective when they are aimed at, and adapted to, small and medium sized enterprises and work through established business networks

4.8.1. Nature of the measure

Not all businesses have the potential to identify appropriate measures for prevention. This is especially true for small and medium enterprises. It is therefore useful for these companies to provide awareness campaigns on the benefits of the implementation of measures to prevent or implementation of BAT. Suitable contractors of these courses can be first regional authorities responsible for waste management and / or business organizations such as branch chambers, chambers of commerce, etc. Raising awareness and awareness of eco-friendly behavior and production among these representatives of business, increases the possibility of applying waste prevention measures by the broader public, and therefore the effectiveness of waste prevention increases.

4.8.2. Past and future application possibilities

So far in Bulgaria were held numerous awareness campaigns and training in the field of waste management, but there are no specific prevention campaigns. It would be appropriate as a future measure that the Executive Agency for Promotion of Small and Medium Enterprises to become a beneficiary under OP "Good Governance 2014-2020", and to develop a project for training specifically for the purposes of prevention, including the creation of business networks. Another possibility is that patent taxes according to the law for those SMEs whose

activities directly lead to the reuse of a product (e.g. repair of shoes, furniture, clothing, etc.) and thus to waste prevention, are reduced to minimum levels, respectively, the programs of municipalities to provide such a measure.

4.8.3. Indicators

Number of trainings and number of participants from SMEs to the total number of SMEs.

4.9. Use of voluntary agreements, consumer/producer panels or sector negotiations in order that the relevant businesses or industrial sectors set their own waste prevention plans or objectives, or correct wasteful products or packaging

4.9.1. Nature of the measure

Voluntary agreements can be divided into two groups: between the state/municipalities on the one hand and representatives of the business sector, on the other, and voluntary agreements between businesses themselves. The advantage of voluntary agreements as each contract is that the result is desired by both parties. These agreements are suitable for activities that are difficult or impractical to regulate by law. Such an agreement can be between the State, represented by the relevant ministries and business associations, e.g. branch organizations of hoteliers and restaurateurs and concerns the amount of food waste thrown away. Such an agreement may be concluded with representatives of retail chains food on the treatment of food with almost expired or sale of goods in bulk. Alternatively send electronic invoices to interested customers service such as electricity, water, heating, telephone, etc. in order to save paper and materials, and supply costs.

Voluntary agreements with industry seem easier to organize, especially if the public authorities have supported the initiative by providing relevant information. It's about that in a number of enterprises from the manufacturing process products are obtained which, if not realized may become waste, but also are valuable raw materials for other industries. Better information on the parameters of these products may significantly help their sale. Thus winning and the seller because it saves costs for the disposal or processing of its product, which he considered as waste, and the buyer wins because acquires raw material for production of a much lower price than usual.

4.9.2. Past and future application possibilities

Although this measure is known, its application is not widespread in Bulgaria. Training programs for the business and administration shall cover this topic, including a study of the experience of other countries. Appropriate measure for example the introduction of the range of reduced portions while keeping course offered "normal" portions. Optimizing the use of almost expired foods from retailers may also be subject to voluntary agreements, e.g. to organize the distribution of such foods among socially disadvantaged groups of the population. Possible measure is the establishment of a national platform for total voluntary agreement with the name and logo, the distribution of annual awards, etc., as a member in this agreement companies and organizations receive additional publicity by publishing a list of companies on the website of Ministry, Ministry of Economy, ASME or by organizing media coverage at the annual awards. Considering this measure is also appropriate to be present on the agenda of NCWP.

4.9.3. Indicators

Number of agreements, number of enterprises included in the agreements, number of implemented measures of voluntary agreement. Number of adopted and implemented decisions of NCWP.

4.10. Promoting sound environmental management systems, including ISO 14001 and EMAS

4.10.1. Nature of the measure

EMAS (Eco-Management and Audit Scheme) is a voluntary instrument for environmental management adopted in 1993 by the European Commission and amended in 2001 (EMAS II) and 2010 (EMAS III). Organizations that implement EMAS automatically meet the requirements of ISO 14001. In organizations applying EMAS and ISO 14001, it is easier to identify the causes of waste, the cost of their treatment and the waste prevention measures. SMEs for which the registration under EMAS and ISO 14001 is too expensive and/or complex, can use developed methodologies, e.g. EMAS easy.

Positive aspects of this measure are that not only reduces waste, but also ensure long-term implementation and monitoring of this effect. It supports also the economic performance of the company through better use of resources and thus lower costs, i.e. it has a positive economic and social impact. Consumer confidence in the EU to companies certified under EMAS and ISO 14001 is generally higher, which can lead to better chances of Bulgarian companies having a certificate to sell their products on the European market.

4.10.2. Past and future application possibilities

In Bulgaria there is an opportunity to stimulate companies to introduce EMAS and ISO 14001, for example through green public procurement as eligibility criteria to require registration under EMAS or certified under the ISO, but this option is rarely used. In the current OP "Competitiveness" it was possible to provide assistance in accreditation, but this option is used by a small number of firms. The general conclusion, which is required by the current practice, is that the legislation of Bulgaria is in full compliance with the EU, but for various reasons the number of certified companies is not great.

Municipal programs for waste management are also advisable to include measures to require registration under EMAS or ISO **certification** as eligibility criteria in public procurement.

Creating electronic network of public procurers to exchange experience for the inclusion of criteria is another appropriate measure in future. Especially important is to conduct awareness campaigns for businesses on the importance of certification, such as the realization of this measure can be done in training business in the overall training program for. Funding of this training can be done by the OP "Good Governance 2014 - 2020".

4.10.3. Indicators

Number of certified organizations, number of contracts included such criteria, number of campaigns for clarification and / or training.

4.11. Use of economic instruments as incentives for "clean purchases" or introducing obligatory payment by consumers for a given product or element of packaging that would otherwise be provided free

4.11.1. Nature of the measure

Like other measures for this measure can be seen in several aspects. One option is to introduce additional product eco tax for certain goods, for example, for "excess" packaging and / or plastic bags or cutlery disposable. Another very important aspect is the calculation of solid waste is closest to the "polluter pays" principle. This means to find appropriate identifiers quantity of waste for disposal in the household and business, which are closer to real discards waste in technical problems for accurate measurement. Such a suitable identifier,

especially for big cities and residential complexes, can be the consumption of water or electricity by individual households. For smaller cities and neighborhoods with predominantly one- and two-family houses where waste containers can be clearly assigned to a household, it is appropriate to calculate the solid waste associated with the actual amount emitted. The situation is similar for firms that shall be able to easily claim a certain amount of containers for waste collection and frequency of transportation.

Another aspect of this measure is to support sites selling goods for reuse, for example by creating a link from the official website of the public office to such commercial sites. In this case it is important to invite all owners of sites that wish to join the initiative in order to avoid cases of unfair competition.

4.11.2. Past and future application possibilities

As is known in Bulgaria has introduced additional product fee for plastic bags with a thickness of 25 microns. This action is positive, given also the proposal of the EC to amend Directive 94/62/EC, which provides for limiting the use of plastic bags with a thickness of 50 microns. The deadline for implementation of the directive into national laws is to twelve months after the entry into force of the Directive, however, based on their experiences Bulgaria may introduce a product fee for bags with a thickness of 25 to 50 microns and earlier this again be one of the "pioneers" in the EU. Such additional product fee may be introduced for other products, such as disposable utensils.

Under current Bulgarian legislation and established practice SWD is calculated value of the property. Obviously, this method of calculation is probably easiest to administer the tax departments of municipalities, but it has nothing to do with the "polluter pays" principle, and appears rather an additional property tax. There is now an opportunity for businesses to pay MSW in advance each year stating the amount of his necessary containers for garbage disposal and frequency of transportation. For households that possibility exists only in limited circumstances. An equitable solid waste close to the "polluter pays" principle will reduce the amount of waste for disposal, as users will be encouraged to buy products that generate less waste, since the size of paid fee will depend directly on the amount of discarded waste. An equitable waste tax for businesses will have ecological as well as economic effect because it would eliminate the current situation of additional taxation of those investors who have invested money in improving the value of their property. Following amendments to the LLTF in December 2013, related to the fact that the waste fee cannot be calculated based on the tax value or the balance value, a working group was established to develop methods that are closest to the polluter pays principle. Considering this topic by the NCWP is also an appropriate measure.

4.11.3. Indicators

Amount of discarded waste from households and businesses before and after the change in the method of calculation of solid waste. Quantity produced and sold plastic bags or other products for which there is an additional charge before and after the introduction of the fee. Number of adopted and implemented decisions of NCWP.

4.12. Use of awareness campaigns and information provision directed at the general public or to specific groups of consumers

4.12.1. Nature of the measure

This measure can be conditionally divided into information campaigns and training events. Promotion of various practical actions leading to waste prevention may be carried out by appropriate campaigns in the mass media, flyers, etc. The aim of these campaigns is that the consumer is able to make an informed decision on shopping or carrying on daily household activities. Training of kindergarten teachers and teachers from grade 1 to 12 is another aspect of this measure. The aim of education is the teachers are able to teach the children acquired knowledge about the positive impact of prevention.

4.12.2. Past and future application possibilities

In Bulgaria there are good examples of conducted information campaigns on waste prevention, for example, the campaign "Green Idea" conducted by different radio stations and financed by OPE 2007-2013. The organization of teachers' training can definitely be enhanced by collaboration with the Ministry of Education and Science and to find an appropriate way to include the teaching of knowledge acquired in the curriculum. The main result of this measure is to raise awareness of the wider population about the importance of protecting resources and the possible measures to. Although the immediate results of this measure cannot be quantified, it is very important for the formation of consciousness in consumer society that seeks to avoid waste. Continuing awareness campaigns and information of Ministry, including elaboration of guidelines to municipalities to conduct such campaigns is suitable future measure. Funding of such projects is possible either under OP "Good Governance 2014 - 2020", or under the sixth axis of OPE, and by funds from EMEPA.

4.12.3. Indicators

Number of awareness campaigns and trainings.

4.13. Implementation of projects relating to the conduct of accreditation and other procedures to verify the "end of waste" under the WFD for WSW, projects for information and training campaigns for efficient use of resources with regard to WSW

4.13.1. Nature of the measure

Essential for the business is the measure of financial support in the field of recycling and recovery of waste for conducting accreditation procedures for obtaining "end of waste" certificate according to the WFD, the relevant European regulations for end of waste and the relevant national legislation. This measure is especially emphasized, as it is completely new for Bulgarian business and requires additional funding, but at the same time its implementation by the interested companies will result in reduction of administrative barriers for waste recycling and will increase confidence in raw materials and products manufactured from waste.

4.13.2. Past and future application possibilities

The measure is completely new for Bulgarian business.

4.13.3. Indicators

Number of Bulgarian businesses that have conducted successful "end of waste" accreditation procedures.

4.14. Agreements with industry, such as the work of expert groups for products, as is the case within the integrated product policy and with retailers on the existence of

information relating to waste prevention and for products with less negative impact on the environment

4.14.1. Nature of the measure

The contents of this measure lies in the fact that public authorities conclude one or more agreements with businesses through the entire creation of a product - design, production, transportation, realization commercially. The purpose of the agreements is to take measures to stimulate and products that have less negative impact on the environment. Best is to work with representatives of one group of goods and hence a group of waste streams, e.g. food waste. Agreements between representatives of the Ministries of Environment and Water and the Ministry of Agriculture and Food, on the one hand, and representatives of agriculture, food industry and trade, on the other hand, is an example of such an agreement in the field of food waste. In the negotiations prior to the conclusion of the agreement and the agreement itself reveals the causes of waste and can be fixed steps that lead to prevention. Since it is not clear who will be the participants in such agreements, respectively, what measures will be taken, it is difficult to determine in advance the impact of such measure. In all cases, will be identified causes of waste and thus the possibility of reducing of this waste can be increased.

4.14.2. Past and future application possibilities

Bulgaria has no practice for such agreements. It is therefore necessary first to perform analysis where applicable measure products and/or industries to identify where the effect would be greatest. It is also to study the experience of other member states. From the collected data can be consulted with relevant industry organizations to signing the agreement. Considering this topic by the NCWP is also an appropriate measure.

4.14.3. Indicators

Number of agreements, respectively held meetings ended with concrete measures by either party in the chain design, production, transportation, sale. Number of adopted and implemented decisions of NCWP.

4.15. In the context of public and corporate procurement - including criteria for environmental protection and waste prevention in calls for tenders and contracts, in accordance with Handbook on environmental public procurement published by the Commission on October 29, 2004

4.15.1. Nature of the measure

In its Communication "Public procurement for a better environment" (COM (2008) 400) the Commission determines green public procurement as a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be provided. The Communication recommends establishing common criteria for "green" procurement, and thus implement a unified approach by Member States, in order not to distort competition in the Community market. The Commission has developed criteria for various goods and services that it considers most appropriate in the procurement of these goods and services.

According to the Bulgarian and European legislation, there are two options in awarding public procurement contracts: offers are compared either on the basis of the lowest price, or by the "most economically advantageous" offer, which means that in account are taken other criteria, including the price. Since the criterion "economically most advantageous offer" always consists of two or more sub-criteria, these may include environmental criteria as well.

As highlighted in the measure referred to in this manual is important to meet the following conditions to be met the following criteria:

1. Relate to the subject matter of the contract
2. Be specific and objectively quantifiable
3. Prior notice
4. Be subject of EU legislation

Subject to these conditions, the criteria will be correct, and hence the contract will be a problem. Assuming as a benchmark "most economically advantageous tender" should be borne in mind that the calculation is appropriate to apply the calculation on a "life-cycle cost". This means that the valuation includes the lifetime and includes the following costs:

- purchase and all associated costs (delivery, installation, commissioning, etc.);
- operating costs, including energy, spares and maintenance;
- end of life cycle as decommissioning and removal.

At the award stage for each of these costs should be determined factor to be able to be taken into account when determining the most economically advantageous tender. This will help you get a product that is not only the "most economically advantageous" but it will have better environmental performance, as in the award process will become clear and the cost of use and disposal that, otherwise, you will not be sufficiently addressed.

4.15.2. Past and future application possibilities

Both the European and the Bulgarian legislation and related documents allow setting of environmental criteria in public procurement. Examples are the directives on public procurement (2004/17/EC and 2004/18/EC), harmonized in Bulgarian PPA, National Action Plan to promote green procurement 2012-2014 and the Handbook on environmental procurement Bulgarian APP and not least handbook on environmental public procurement published by the Commission referred to in this measure. Although the volume of public procurement in Bulgaria reached almost 6 billion BGN in 2011, Bulgaria is among the European countries with smallest share of green public procurement. This means that in most cases the recommended environmental criteria are not taken into account. However, even if only the criterion of the lowest price is used, there are ample opportunities for the application of the measure, for example, in the procurement of goods and services that fall within the group of goods and services for which criteria have been developed by the EC, for example, recycled paper, office and IT equipment, lighting, cleaning products and services, etc. Such a contract for the supply of recycled paper was launched by the Ministry of Environment and Water, and then by the Central Authority for the procurement of the Ministry of Finance has ordered recycled paper for most of the state administration.

In order to increase the share of "green" public procurement can be initiated amendment to the legislation to adopt appropriate regulation of "green" procurement in which to regulate more explicit requirements to contracting for the mandatory inclusion of environmental criteria. For example, in the Federal Republic of Germany it is provided by law that in awarding public contracts the use shall be envisaged of products, which are characterized by longer life cycle, they are comfortable to repair and reuse in comparison to other products, lead to less waste amounts or are made from recycled materials (See § 45 para. 1 of the German law on waste management - Kreislaufwirtschaftsgesetz - KrWG). Appropriate measure is also an in-depth

and regular training of employees of state and municipal administrations responsible for procurement. Including this topic on the agenda of NCWP is also an appropriate measure.

4.15.3. Indicators

Number and / or value of "green" procurement, trainings and number of employees involved. Number of adopted and implemented decisions of NCWP.

4.16. Promoting reuse and / or repair of appropriate discarded products or their components through use of educational, economic, logistic or other measures such as support or establishment of accredited centers and networks for repair and reuse, especially in densely populated areas

4.16.1. Nature of the measure

Reuse is one of the most effective ways to prevent waste. Through these actions extend the product life cycle, which leads to reduction of waste throughout the supply chain - production, supply and trading. A good example of this measure is to encourage the use of reusable utensils instead of disposable in organizing public events. As described above (see section 2.2.3.), preparation for re-use does not fall within the purely legal sense to prevention and although its effect is ultimately the same - an extension of the life cycle and hence reduce the amount waste, this measure will be part of the plan for waste management in the recovery section.

4.16.2. Past and future application possibilities

Bulgaria has a well-developed network, mostly from small private firms carrying out repairs on a wide range of goods - appliances, clothes, shoes, furniture, bikes and more. For some goods, such as clothing and household EEE, there are shops for reuse. Growing popularity acquires and e-commerce sites or even about offering a wide range of second-hand goods between citizens (e.g. "Prodavalnik", "Marketplace"). State and especially local authorities can assist logistically and / or organizational activity of repair centers, incl. and sales and deliveries to such centers, for example: provision of municipal facilities specifically for such repair centers; establish a voluntary register of companies offering such repairs to the municipality, and in cities with district division to the respective regional municipal administration; promoting the positive effects of reuse; create a link from the website of the relevant ministry / community site to organizations that sell second-hand goods, etc. Another suitable method of support is (partially) finance courses incl. by OP "Human Resources Development" 2014-2020, in order to acquire or enhance the skills of workers in repair companies and therefore the quality of services and consumer confidence in the second-hand goods or refurbished products. Such a measure is support for creating "green" jobs by companies providing services for the repair of products. In some member states to create state and municipal centers for repair. In Bulgaria probably more appropriate would be a public-private partnership, although purely municipal centers are possible. The measure would have not only ecological, but a social impact as well, due of the creation of new jobs in the service sector, which would offset any reductions due to reduced volume of production in the country of production. It is especially important to keep statistics are for the services to be able to calculate the amount of waste saved, that can make an accurate and reliable indicator for measuring the success of the measure.

Regarding the second aspect of the measure "repeatedly instead of once," mostly due to organizational difficulties, this measure is rarely used in Bulgaria. One possible solution, at

least for part of the cases, is including in the contract between the state and municipal administration with the catering company an imperative to use utensils, plates and cups reusable.

4.16.3. Indicators

The success of this measure can be easily evaluated if statistics exist, how many products are reused, respectively, how many events have taken place using reusable utensils and thereby calculate the amount of waste prevented. Number of visits to the sites of state organs linking to sites merchandising and reuse if possible number of sales made as a result of these visits, the number of completed training courses are possible indicators.

Methodology, programs, research and other publications in the area of waste prevention are presented in Annex 8 to the NWMP.

ACTION PLAN TO THE NATIONAL WASTE PREVENTION PROGRAMME

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
Strategic objective: To reduce the harmful effects of waste by waste prevention	To reduce the amount of waste; To reduce the content of hazardous substances in materials and products							Value of the indicators: - "industrial waste per unit of GDP"; - "municipal waste generated per inhabitant." - "hazardous waste per unit of GDP."	In 2020 the value of the indicators "industrial waste per unit of GDP" and "hazardous waste per unit of GDP" is less than the value of the indicators in 2010. In 2020, the value of "generated municipal waste per inhabitant" is less than the value of the indicator in 2011		
		1. To use planning measures or other economic measures to promote efficient use of resources	Making recommendations for prevention of waste generation in MOEW guidelines for Municipal waste management programs			2014	Guidelines approved by the Ministry (MOEW)	Number of municipal waste management programs developed by municipalities with waste prevention measures included	Waste management programs with included waste prevention measures developed by all municipalities	MOEW	Municipalities
			Development of waste management programs by municipalities with objectives and waste prevention measures included			2015	Waste management programs approved by the municipal councils	Number of programs for waste management approved by the municipal councils including measures for waste prevention	Waste management programs with included waste prevention measures developed by all municipalities	Municipalities	Population and other stakeholders involved in the public consultations in the development of the programs
			Implementation of the waste prevention measures in municipal waste management programs	The estimated value in the municipal waste management programs		2020	Waste prevention measures of the municipal programs are implemented	Number of implemented waste prevention measures of municipal waste management programs. Value of the indicator "generated municipal waste per inhabitant"	In 2020, for every municipality the value of the indicator "generated municipal waste per inhabitant" is less than the value of the same indicator in 2011	Municipalities	Partners of municipalities listed in the municipal waste management programs for the implementation of waste prevention measures
			Analysis of opportunities through grants from the state budget to achieve waste prevention and establishing an assessment criteria as part of the national	0,4	Ministry of finance (MF)	2016	The analysis is approved by the contracting authority	Stages of assignment and implementation of public procurement procedure	Identified opportunities for funding from the state budget for waste prevention and established assessment criteria	MF	Ministry of Economy, MOEW

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			policy to reduce and eliminate the environmentally harmful subsidies								
			Applying the measures identified by the analysis			2020	Applying the assessment criteria	Prepared annual reports on the implementation	Prevented waste generation due to the applied assessment criteria	MF	Budget organizations
			Pilot introduction of reduced size (discount) of municipal waste fee (MWF) to households which implement home composting			2020	Approved reduced MWF in municipalities where households implement home composting	Number of municipalities that have approved the reduced amount of MWF to households implementing home composting	The number of households implementing home composting is 500 thousand households	Municipalities	Households
			Reduction of paper waste and other waste office supplies, through the implementation of national and institutional programming documents for "electronic government"			2020	"Electronic government" measures have been implemented in full scale	Number of institutions introduced electronic services leading to the reduction of waste paper and other office supplies	Average of at least 50 thousand tons of waste prevented office paper and related supplies annually	Ministry of transport, information technology and communications (MTITC), all ministries in charge for sector strategies	State and municipal administrations
		2. To promote research and development activities to achieve cleaner and less wasteful products and technologies and also to disseminate and use the results of these research and development activities	Development of funding program for scientific, development research and innovation, leading to waste prevention	0,07	Bulgarian Scientific Research Fund	2015	The program is approved by the Contracting Authority	Stages of assignment and implementation of public procurement procedure	The program is intended to finance the Bulgarian Scientific Fund	Ministry of Education and Science (MES)	Bulgarian Scientific Research Fund
			Applying the research, development and innovation program for waste prevention as part of the activities of the Bulgarian Scientific Research Fund	5	Fund "Scientific Research"	2020	Approved projects financed by the programme	Number of approved projects	Number of implemented elaborations	Fund "Scientific Research"	Branch organizations of economic activities

STRATEGICAL OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Elaborating a web-platform for presenting the results and best practices from research and development of products and technologies which use fewer resources and generate less waste	0,2	Bulgarian Scientific Research Fund	2017	Elaborated and functioning internet-based platform	Number of best practices published	Scientific organizations and economic operators have online access to information about best practices and the results of research and development of products and technologies which use fewer resources and generate less waste	MES	Bulgarian Scientific Research Fund
		3. To develop effective and meaningful indicators of harmful environmental impact of waste, which aim to contribute to the waste prevention at all levels	Development and use of indicators of harmful environmental impact of waste	0,1	Budget of Executive Environment Agency (EEA)	2017	The investigation was approved by the contracting authority	Stages of assignment and implementation of public procurement procedure	Indicators applied in reports, analyzes and forecasts	Executive Environment Agency (ExEA)	NSI
			Development and implementation of system for collecting information for tracking the progress of implementation of the PWP measures, including supplementing regulations, if necessary	0,1	Budget of MOEW	2015	Adopted system for collection of information and regulatory changes, if necessary	Number of PWP measures for which information is collected for tracking the progress on their implementation	By 2020 for all PWP measures information is available for reporting the progress on its implementation	MOEW	Organizations providing information on implementation of the PWP measures
		4. Promoting environmentally sound design (systematic integration of environmental aspects into product design to improve the "environmental performance" of a product throughout its life cycle)	Adopting rules and including in the invitation to the beneficiaries to fund projects for development of new product design and technology, requiring less natural resources, containing less hazardous substances, generating less waste after use of the products and also products and technologies with better "environmental behavior".		Operational Program "Innovations and Competitiveness 2014 – 2020" / priority Axis "Promoting investment in R & D"	2016	Adopted rules and published Calls	Number of approved projects	Number of successfully implemented projects	Ministry of economy	Business and scientific organizations

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Implementation of approved projects for development of new product design and technology, requiring less natural resources, containing less hazardous substances, generating less waste after use of the products as well as products and technologies with better "environmental behavior. "	30	Operational Program "Innovations and Competitiveness 2014 – 2020", priority axis "Promoting investment in R & D"	2020	Funded and implemented projects under OP "Innovation and Competitiveness " in the relevant field	Number of products for which eco-design have been introduced and technologies requiring less resources, containing less hazardous substances, generating less waste after use of the products and products with better environmental behavior	Reduced quantity of waste and hazardous substances according to estimates presented in successfully implemented projects	Ministry of Economy	Business and scientific organizations
		5. To provide information on techniques to waste prevention in order to facilitate the applying of best available techniques by industry	Adopting rules and including in the invitation to the beneficiaries of funding for industry / employers' organizations for training and development of methodological and training materials, information platforms for businesses on the European and national policies and programs for effective use of resources and techniques for waste prevention from industry		Operational Programme "Good Governance" 2014-2020 (OPGG)	2015	Adopted rules and published Calls	Number of approved projects	Number of successfully implemented projects	Business organizations	
			Implementation of projects for industry / employers' organizations for training and development of methodological and training materials, information internet-based platforms for businesses on the European and national policies and programs for the effective use of resources and techniques for waste prevention from industry.	2	Operational Programme "Good Governance" 2014-2020 (OPGG)	2020	Funded and implemented projects under the operational program in the relevant field	Number of awareness campaigns and training programs carried out for business in this field; number of companies and people trained.	Functioning information platform for good business practices on national and international level in this field, developed methodological manuals and information materials for waste prevention for at least five industry /economical activities/	MOEW/MF	Branch organizations of industrial activities

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
		6. To organize training of competent authorities regarding the inclusion of the requirements for waste prevention in waste permits	Preparation of instructions to RIEWs and training RIEWs for permits for waste management activities and implementation of the requirements for waste prevention	0,4	Budget of MOEW/ Operational Programme "Good Governance" 2014-2020 (OPGG)	2017	Successfully implemented project for the training of RIEWs employees	Number of trained employees, developed methodological guidelines / instructions to take into account waste prevention policies when issuing waste permits	All RIEWs received relevant training	MOEW	RIEWs
		7. To include waste prevention measures for facilities which are not covered by Annex 4 of the Environmental Protection Act. Where appropriate, these measures may include waste prevention estimates and plans.	Applying of methodological guidelines for waste prevention policies for issuing waste permits by RIEWs.			2020	RIEWs put into practice the policies for qualitatively and quantitatively waste prevention	Number of permits which include a requirement for waste prevention	Increase of the number of permits issued under the WMA which include measures of quantity and quality waste prevention.	MOEW	RIEWs, Municipalities
		8. Carrying out awareness campaigns or providing support to the business: financial, in decision making or other support. Probably these measures are particularly effective when targeted and tailored for small and medium enterprises and are implemented by established business networks.	Elaboration of rules and incorporation in the calls for proposals to potential beneficiaries of funding for training on waste prevention for SMEs, including development of business networks.		Operational Programme "Good Governance 2014-2020" (OPGG)	2015	Adopted rules and published Calls	Number of approved projects	Number of successfully implemented projects	Executive Agency for Promotion of Small and Medium Enterprises (EAPSME)	SMEs and their representative organizations
			Implementation of waste prevention training projects for SMEs, including the development of business networks.	2	Operational Programme "Good Governance" 2014-2020 (OPGG)	2020	Completed projects for training for SMEs	Number of trainings and number of participants from SMEs to the total number of SMEs in the respective branch	At least 50% of SMEs in the respective branches are trained or integrated into relevant business networks	Executive Agency for Promotion of Small and Medium Enterprises (EAPSME)	SMEs or their representative organizations

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Determining the license tax according to the Local Taxes and Fees Act /LTFA/ to the minimum level for the taxable entities whose activity directly leads to reuse of some products (e.g. Repair of shoes, furniture, clothes, household appliances, etc.) and hence to waste prevention, respectively, in the programs of municipalities to be provided such measure			2016	Local Taxes and Fees Act was amended in the Annex where the license tax activities are listed, in order to differentiate them in different positions of license tax to provide services linked to waste prevention/ extending the life of products /	Number of municipalities, whose municipal councils voted for minimum rate for license tax on services related to reuse of products and hence - the implementation of waste prevention policies	Additional amount of prevented waste, due to the increased number of services provided by persons with reduced license tax.	MOEW, MF	Municipalities
			Elaboration and maintaining a national web-platform with regional information on the location and availability of second hand construction materials, which can be used as raw material by other companies.	0,5	Operational Programme “ Good Governance” 2014-2020 (OPGG)	2020	Implemented project for the establishment of national platform	Stages of assignment and implementation of public procurement procedure	Users across the country have access to the national web-platform where second hand construction materials are offered	Branch organizations	
		9. To use voluntary agreements, expert groups of consumers/ producers or sector negotiations so that relevant businesses or industrial sectors set their own plans or targets for waste prevention, or to correct waste products or packaging that generate a large amount of waste. 14. Agreements with producers, as for instance work of expert groups for the relevant products, as is the practice within the integrated product policies, or with retailers on the matters of availability of information on waste prevention and for products with less negative impact on the environment	To include voluntary agreements for waste prevention including a study of the experience of other European countries in training programs on waste prevention policies for business and administration			2020	Implemented projects for training, with topics on voluntary agreements between public institutions and business organizations	Number of training sessions with topics on voluntary agreements between public institutions and business associations	Trained employees and business representatives on voluntary agreements	MOEW	Business / Branch organizations

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Elaboration of rules and incorporation in the Calls for proposals to potential beneficiaries a development of sector plans for waste prevention by industry organizations.	0,8	Operational Programme "Good Governance" 2014-2020 (OPGG)	2017	Elaborated rules and published Calls	Number of approved projects	Number of successfully implemented projects	Business / Branch organizations	
			Implementation of projects for development of sector plans for waste prevention by branch organizations	0,15	Operational Programme "Good Governance" 2014-2020 (OPGG)	2020	Implemented measures envisaged in sector plans	Members of relevant branch organizations implementing measures approved in the sector plans for waste prevention	Additional quantities of waste prevented due to the implementation of measures approved by the sector plans for waste prevention	Business / Branch organizations	
			Concluding voluntary agreements between MOEW and branch organizations and individual companies to implement waste prevention measures			2018	Concluded voluntary agreements with industry organizations and individual companies to implement waste prevention measures	Number of members of branch organizations in the sector implementing measures to reduce food waste	At least half of the members of the branch organization are implementing waste prevention measures envisaged in the voluntary agreement	MOEW	Branch organizations and individual companies
			Concluding voluntary agreements between MOEW and branch organizations and individual enterprises in the "hotels and restaurants" sector to prevent food waste			2020	Concluded voluntary agreement with branch organizations in the "hotels and restaurants" sector	Number of members of branch organizations in the sector implementing measures to reduce food waste	At least half of the members of the branch organization are implementing waste prevention measures envisaged in the voluntary agreement	MOEW	Branch organizations and individual companies
			Developing and implementing a plan for use of almost expired food from retail chain from socially disadvantaged sections of the population.			2020	The necessary legal regulations implemented are approved, the organizational and technical conditions to reduce food waste from retailers are fulfilled	Current implementation of the plan	Retail chains in cooperation with social institutions apply the measure; the amount of food discarded by retailers is reduced	Ministry of agriculture and foods (MAF)	Ministry of Labour and Social Policy (MLSP), Ministry of health (MH), municipalities, branch organizations

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Development of national platform for waste prevention towards which with voluntary agreement have joined state/municipal/branch / NGO/consumer/ educational/scientific/ media and other organizations. The National Platform has its own logo, annual awards, etc., as the members in this agreement receive additional publicity by publishing a list of companies on the site of MOEW or by organizing media coverage at the annual awards.	0,5	Operational Programme "Good Governance" 2014-2020 (OPGG)	2020	Elaborated and operating national platform for the voluntary agreement on waste prevention	A project for development of the architecture, goals and activities of the National Platform for voluntary agreements on waste prevention is approved	By 2020, the national platform are connected with at least 1,000 organizations by voluntary agreements	Environmental NGO or coalition of environmental NGOs	Partners from all organizations
		10. To promote reliable environmental management systems, including ISO 14001 and EMAS	Conducting information campaigns for the business on the importance of certification, and the realization of this measure can be carried out within the business training in the overall waste prevention training program		Within the frames of the budget for training programs of business and administration addressed in the above measures	2018	Projects implemented under the OP "Good Governance 2014-2020" for training with EMAS and ISO 14001 topics included	Number of conducted awareness and/or training campaigns	Number of companies trained	MOEW/MF	Business organizations
		11. Use of economic instruments as incentives for "clean purchases" or introduction of an obligatory payment by consumers for a product or packaging element that would otherwise be provided for free.	Determining the amount of product tax since 2015 for disposable plastic bags			2014	Approved national regulation for product tax	Amount of used polymer bags	In 2020, the amount of used polymer bags for single use is up to 5% of the amount used in 2010	MOEW	Producers and importers
		12. To use awareness campaigns and to provide information directed to the general public or to specific groups of users	During development of new curricula, appropriately to integrate issues on waste prevention			2017	In the curriculum for primary and secondary education issues on waste prevention are properly included; when preparing the assignment for programs development the waste prevention topic is considered	Number of training programs, which included the issue on waste prevention	Topics on waste prevention to be included in at least two curriculums	MES	MOEW

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Elaboration of rules and incorporation in the calls for proposals to potential beneficiaries of funding for projects for conduction of targeted campaigns to explain and provide information on the waste prevention policies		Operational Programme "Good Governance" 2014-2020 (OPGG)	2015	Elaborated rules and published Calls	Number of approved projects	Number of successfully implemented projects	Managing Authority (MA) of OP "Good Governance 2014-2020"	NGO
			Implementation of projects for conducting targeted campaigns to explain and provide information on waste prevention policies		Operational Programme "Good Governance" 2014-2020 (OPGG)	2020	NGO projects are approved for national and regional information and awareness campaigns	Number of projects implemented by NGOs	By 2020 at least two national and five regional campaigns are conducted	Non-Governmental Organization (NGO)	Managing Authority (MA) of the OP "Good Governance 2014-2020"
			Including issues for waste prevention in the information campaigns of Recovery organization (RO) for packaging waste, WEEE, ELV and WBA		Within the annual budgets for information campaigns of Recovery organization (RO)	2020	Campaigns conducted by the Recovery organization (RO) which included topics on waste prevention	Number of implemented information campaigns	All Recovery organization (RO) for packaging waste, WEEE and ELV annually by 2020 conducted campaigns	Recovery organization (RO)	MOEW, Schools, Municipalities
		13. To implement projects for conducting accreditation and other procedures to verify the "end of waste" under the WFD for widespread waste (WSW), projects information and training campaigns for effective use of resources regarding the widespread waste (WSW)	Implementation of Eco label awarding projects.	1		2020	Developed and published Call to the business to support business Eco label awarding projects	Number of products with Eco label	By 2020, at least 50 products are eco-label certified	MOEW	Companies
		15. In the context of public and corporate procurement – to include criteria for environmental protection and waste prevention in calls for tenders and contracts in accordance with the Guidance on ecological public procurement published by the Commission on October 29, 2004	Developing guidelines for conducting "green" procurement in which to regulate explicit recommendations and best practices of contracting authorities to include environmental criteria such as eligibility criteria for EMAS, ISO 14001 and eco-labeling	0,5	Operational Programme Good Governance 2014-2020 (OPGG)	2017	Developed Guidelines on EMAS, ISO 14001 and eco-labeling in the 'green' procurement	Stages of project implementation	By 2020 at least 20% of public procurements are "green"	Ministry of Economy - Public Procurement Agency	

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Elaboration of rules and announcing the call for the preparation of projects for training of employees of the procurement units of state and municipal administration on "green procurement", including the development of detailed methodological guidelines and sample of bidding documents		Operational Programme "Good Governance" 2014-2020 (OPGG)	2015	Elaborated rules and published Calls	Number of approved projects	Number of successfully implemented projects	Managing Authority (MA) of the OP "Good Governance 2014-2020"	Public Procurement Agency, National Association of Municipalities in the Republic of Bulgaria (NAMRB)
			Implementing projects for training of employees of the procurement units of state and municipal administration on "green procurement", including the development of detailed methodological guidelines and sample of bidding documents	2			Implemented projects for state and municipal employees training on 'green' procurement	Number of conducted trainings and number of employees involved.	By 2020 at least 20% of procurements are "green"	Public Procurement Agency, National Association of Municipalities in the Republic of Bulgaria (NAMRB)	Managing Authority (MA) of the OP "Good Governance 2014-2020"
		16. To promote reuse and/or repair of appropriate discarded products or their components through the use of educational, economic, logistic or other measures such as support to or establishment of accredited centers and networks for repair and reuse, especially in densely populated areas	Municipalities to establish public registers in order to provide an available to the public information on the services provided for repairs and maintenance in the settlements of the municipality, leading to longer product life and correspond to waste prevention.			2017	Public registers are established	Number of municipalities that have established public registers	At least 80% of all municipalities have established public registers	Municipalities	Companies providing relevant services
			Elaboration and maintaining a national web platform with information on construction materials from demolition or repairs that can be reused and also on recycled materials	0,7	Operational Programme "Good Governance" 2014-2020 (OPGG)	2017	Implemented project for elaboration of national platform	Published call to support project proposals, in which scope the elaboration of a national platform is eligible	Users across the country have access to the national web platform where construction materials, second hand materials are offered	Industry Chamber in the construction industry	Managing Authority (MA) of the OP "Good Governance 2014-2020"

STRATEGIC OBJECTIVE	OPERATIONAL OBJECTIVE	Measures under Annex IV of the WMA and WFD	ACTIVITIES (MEASURES)	BUDGET (MILLION BGN)	SOURCES OF FUNDING	Deadline for implementation (month and year)	EXPECTED RESULTS	PERFORMANCE INDICATORS		RESPONSIBLE INSTITUTIONS	
								CURRENT	TARGET	LEADING	PARTNER
			Elaboration of rules and incorporation in the calls for proposals to potential beneficiaries of funding for project for acquiring or improving skills in crafts related services for repairs and maintenance of products		OP "Human Resources Development 2014-2020"	2016	Elaborated rules and published Calls	Number of approved projects	Number of successfully implemented projects	Ministry of Labour and Social Policy (MLSP)	Business organizations
			Implementing projects to acquire or improve qualifications on crafts related to repairs and maintenance of products	20	OP "Human Resources Development 2014-2020"	2020	Implemented projects for acquisition or improvement of qualification in crafts related to products repair	Number of persons who have acquired or improved qualifications in this field	At least 3,000 persons who have successfully completed training courses	Business organizations	Ministry of Labour and Social Policy (MLSP)
			Elaboration of rules and incorporation in the calls for proposals to potential beneficiaries of funding for funding of companies that create jobs associated with repairs and maintenance of products		OP "Human Resources Development 2014-2020"	2020	Elaborated rules and published Calls	Number of approved projects	Number of successfully implemented projects	Ministry of Labour and Social Policy (MLSP)	Companies
			Implementing projects for companies that create jobs related to the repairs and maintenance of products	25	OP "Human Resources Development 2014-2020"		Implemented projects for disclosure of "green" jobs in the relevant field	Number of companies for repairs and maintenance of products which create "green" jobs in this field; number of persons employed in the programs in this field	At least 500 jobs created by the program in this field	Companies	Ministry of Labour and Social Policy (MLSP)

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment



For many years waste has been considered only as a source of contamination. Well-managed waste, however, can be a valuable source of raw materials, especially as many of them are becoming scarce. The EU economy consumes an average of 16 tons of raw materials per capita per year. Six tons of them turn into waste, half of which is landfilled. Many Member states, including Bulgaria, still manage most of their waste through landfills, even though they are not sustainable in the long term.

The best option is waste to be prevented. Where this is not possible, other good options are re-use, recycling and recovery of waste. Good waste management can greatly contribute to economic growth and job creation⁷. It saves valuable resources, helps avoid costly clean-up operations and prevents environmental problems and health.

The National Waste Management Plan (NWMP) aiming to increase the amount of recycled and recovered waste focuses precisely on transforming our country into a recycling society.

Objective 2 will be achieved through five programmes:

- Programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass
- Programme to achieve the objectives and requirements for biodegradable waste
- Programme to achieve the targets for recycling and recovery of construction waste and waste from demolition
- Programme to achieve the targets for recycling and recovery of widespread waste
- Programme to improve the hierarchy of managing other waste streams and reducing the risk to the environment from landfills.

⁷ According to a 2012 study, if the EU waste legislation is fully implemented, Europe would save EUR 72 billion a year, the turnover from waste management and recycling will increase by EUR 42 billion and 400,000 jobs will be created by 2020.

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment

Programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass



Recycling targets for household waste paper, metal, plastic and glass as pre-set by Bulgaria to be achieved stepwise by 2020, are as follows:

- by 1 January 2016 - at least 25 percent of their total weight
- by 1 January 2018 - at least 40 percent of their total weight
- by 1 January 2020 - at least 50 percent of their total weight.

Targets are implemented by municipalities included in the Regional Waste Management Associations (RWMAs) in accordance with the decision taken by the General Assembly of the relevant regional system.

During the planning period, no change in these parameters is provided for.

An important prerequisite for achieving these objectives are part of the actions taken in recent years in this area, namely:

- Clearly defining the responsibilities of municipalities concerning waste management, including recycling targets;
- Setting binding targets for preparing for re-use and recycling of waste materials, including at least paper and cardboard, metal, plastic and glass;
- Introducing a legal requirement for the administrative, economic, educational, business and other similar businesses that generate waste to separate waste paper and cardboard, plastic, glass and metal to contract for delivery to such companies and organizations authorized to such activities;
- Introducing economic instruments to stimulate municipalities to improve performance recovery and recycling of household waste, as those who meet specified targets for recycling household waste is exempt from 50% of the charges due for waste disposal;
- Another economic incentive to provide municipal sites for delivery of separately collected waste from citizens and companies is the exemption of municipalities of the additional cost of 15% increase of the charges due to disposal, for municipalities that do not fulfill their obligation to provide that infrastructure;
- Providing by law an opportunity for municipalities to use the accumulated amount of their payment of charges for disposal to finance investment costs for recycling and other recovery of household waste;
- About ten facilities for separation of useful components of municipal waste are already functioning as a result of their development through public-private partnership between the packaging waste recovery organizations, as well as financial assistance through the Enterprise for Management of Environmental Protection Activities, including. Funding of these activities will be within the annual budget of EMEPA, as the enterprise is included in the consolidated fiscal program of the country;
- Investment projects developed, approved for financing under OP „Environment 2007-2013” and being in implementation for construction of facilities for utilization of municipal bio waste in another 13 RWMAs and 2 RWMAs funded through the Enterprise for Management of Environmental Protection Activities, which will be commissioned in 2014 and later in 2015;
- More than 6 million inhabitants of the country are covered by separate collection systems of packaging waste paper and metal, plastic and glass. This is an important prerequisite for the implementation not only of the national targets for recycling and recovery of packaging waste, but it is a contribution to the local and national objectives in this programme to recycle at least 50% of municipal waste by 2020;

- Implementation of training programmes for municipalities to introduce them into the current regulations on household waste recycling requirements and presentation of best municipal practices and recommendations in this area.

The programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass provides for measures that can be classified provisionally as investment measures and non-investment measures.

Investment measures under the programme does not include projects that are approved under OP „Environment 2007-2013”, as well as other sources of funding regardless of the stage of implementation thereof. These investments were taken into account in determining the need of building additional capacity and do not require their explicit inclusion and financing in the Waste Management Plan 2014 - 2020.

The programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass also provides for the necessary new investments related primarily to the construction of facilities for pre-treatment of waste for recovery of household waste and prevent greenhouse gas emissions. The indicative number, the capacity and the value of building facilities for pre-treatment of waste for recovery of household waste and prevent greenhouse gas emissions are determined on the basis of the prepared financial analysis and related scenarios for the development of waste management activities. Totally the programme envisages the construction of facilities for pre-treatment of waste for recovery of household waste and prevention of greenhouse gas emissions with a total capacity of 530,000 tons to the total amount of BGN 241,21 million.

An indicative list of regions where it is feasible to build facilities for pre-treatment of waste for recovery of household waste and prevent greenhouse gas emissions is presented in an appendix to the National Waste Management Plan (NWMP). Specific areas will be determined upon completion of detailed feasibility studies, Environmental Impact Assessment (EIA) procedures and compliance assessment with the NATURA 2000 network objectives.

It is expected that the necessary funds will be provided by the business, including packaging waste recovery organizations. Municipalities can also finance such projects, including through public - private partnership between municipalities and businesses. For this purpose, they can also tap in municipal funds accumulated from disposal targeted deductions and to provide municipal land, etc.

Another investment measure under this programme is the construction of municipal sites for free delivery of separately collected waste from households and other waste generators. The number of sites and their particular location should be determined individually in the preparation of studies and the development of local waste management plans. Under preliminary estimates for the construction of the necessary number of sites for urban settlements in the country, for over 10,000 inhabitants the amount required will be close to BGN 53.5 million. This measure will support separate collection, recycling and safe treatment of waste from households, such as bulky, dangerous, and other types of household waste. The required funds will be provided by municipalities, as they can use the accumulated amount of disposal deductions.

"Non-investment" measures to achieve the pre-set targets are broad and only some of them are included in this programme, namely:

- Regulatory measures - related to determining municipal regulations for waste management within the requirements of the sites for free delivery of waste paper and cardboard, plastics and glass;

- Information and publicity measures - focused on publication by the municipalities of local information and the conditions of reception and delivery of separately collected municipal waste;
- Measures related to thematic inspections by RIEWs for implementation of the requirements related to separate collection and transfer of recyclable waste.

The programme itself does not include a significant portion of the "non-investment" measures that are directly related to achieving the programme objectives, but are described in other programmes within the National Waste Management Plan (NWMP) 2014-2020, as they are horizontal and contribute to several goals and objectives of the plan. Directly related to achieving the objective of this programme are the measures of the other planned programmes relating to:

- carrying out information campaigns to encourage people to separate waste and actively provide information on municipal waste;
- continued implementation of economic instruments through incentives and sanctions to result in the achievement of objectives (deductions for disposal, reduction of solid waste for participating in separate collection systems);
- development of municipal regulations with specific rules and requirements for separate collection and recycling of recyclable waste, in particular to separate collection and transfer of waste from industrial, commercial, administrative, educational and other similar sites; rules of operation and use by citizens and businesses of municipal sites for delivery of separately collected waste;
- development of municipal/regional waste management programmes where to identify the specific measures at the local level to achieve recycling targets for household waste;
- conducting regular municipal studies for the morphological composition of household waste;
- update of the methodology for determining the morphological composition of waste, with the purpose to determine waste in the scope of the obligations of municipalities and the recovery organizations of widespread waste and adoption of a mechanism for calculation of the achievement of targets for recycling of household waste by municipalities;
- determination of municipal waste fee depending on the quantity of generated waste and considering the affordability for households;
- training and improving administrative capacity inspections of waste management at municipal, regional and national level;
- measures for the development and implementation in the municipalities of electronic information systems for reporting on the implementation of targets for recycling and recovery of household waste;
- review of criteria for coverage of population by separate collection systems of paper, glass, plastics and metals, taking into consideration the specifics of municipalities: geographical location, quantities of packaging waste, economic development, distance of treatment facilities, relief, etc.;
- introduction of a common model for execution of the targets for recycling of household waste by separate collection of bio-waste at the source for composting and

sorting of separate collected recyclable waste (paper, glass, metals, plastics), incl. from packaging and other sources, thus giving priority to separate collection at source;

- clear definition of the obligations of municipalities and organizations for recovery of widespread waste in the separate collection systems for collection of paper, glass, metals, plastics and execution of the target for recycling of household waste. MOEW will initiate an agreement between the municipalities through the NAMRB and the organizations for recovery of packaging waste regarding implementation of the national system for separate collection and recycling, incl. packaging waste and mechanisms for control of the execution.
- execution of these obligations should ensure construction of a common waste collection and sorting of recyclable packaging waste and other sources through sharing costs between municipalities and OO and clear definition of their operational and financial responsibilities based on real quantities of waste in each municipality and region;
- introduction of criteria for effectiveness of sorting to guarantee the execution of targets for recycling and recovery of packaging waste and other recyclable waste in the composition of household waste, and on the other side – criteria for evaluation of preliminary treatment before disposal with limitation of recyclable and bio-degradable waste in the remaining fractions for disposal, in compliance with the criteria for admission of waste at disposal sites;
- municipal programmes for waste management should be based on developed scenarios for application of separate collection at source of all main waste streams (bio-waste, recyclable packaging waste, hazardous household waste, etc.) combined with construction of facilities for treatment of the remaining fraction. Scenarios should be compared by environmental, social and financial indicators and the scenario shall be chosen that offers the optimal combination between separate at-source collection and treatment of mixed waste;
- measures to improve the recovery and recycling of household packaging waste, waste electrical and electronic equipment (WEEE), batteries and accumulators, as they are both household waste.
- measures to create "green" jobs in the business of recycling and recovery of waste, as well as training programmes and training and retraining in the field;
- measures for the implementation of reasonable working schemes for waste collection at the source of origin, which are not limited to collection in containers and transportation, but look for opportunities in new construction or maintenance of the settlements to be used pneumotransport and/or hydrotransport for individual types of waste;
- wider use of "green" procurement, such as the requirement to supply the administration of recycled office paper, etc.

The implementation of measures under this programme and pertinent measures under other programmes within the National Waste Management Plan (NWMP) 2014-2020, encourage separate collection and improve the quality of collected recyclable waste materials from paper and cardboard, metals, plastics and glass, ensuring the implementation of local, regional and national targets for recycling of these waste streams. The programme implementation will result in reduced seizure of materials from nature and pollution from uncontrolled waste

disposal, creating new jobs and increasing the life of landfills for residual waste that cannot be recovered.

Action Plan to the Programme to achieve the objectives of preparing for re-use and recycle waste paper, metal, plastic and glass

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing quantities of recycled and recovered waste and reducing the environmental risk from landfilled waste	Reaching the goals of preparing for re-use and recycle waste paper, metal, plastic and glass						2016 – minimum 25% from the total weight of waste paper, cardboard, plastics, metals and glass are prepared for re-use and recycling; 2018 - minimum 40% from the total weight of waste paper, cardboard, plastics, metals and glass that are prepared for re-use and recycling	2020 - minimum 50% of the total weight of waste paper, cardboard, plastics, metals and glass are prepared for re-use and recycling		
		Construction of facilities for pre-treatment of waste for recovery of household waste and prevent greenhouse gas emissions and the production of RDF in RWMA with a total capacity min. 530,000 tons	241,21	OPE 2014-2020*/Municipal budgets/PPPs/business, EMEPA	2019	Built facilities for pre-treatment of waste for recovery of household waste and prevent greenhouse gas emissions in RWMA with a total capacity 530,000 tons	Stages of the procurement and execution of procurement contracts	Achieved targets for preparing for re-use and recycling of waste paper, metal, plastic and glass	Municipalities-RWMA centers	Municipalities-RWMA Partners
		Building sites for free delivery of separately collected household waste, including bulky waste, household hazardous waste and repair household and other waste in all urban settlements in municipalities with a population greater than 10 000 inhabitants	53,50	OPE 2014-2020 Municipal budgets	2014	Constructed sites in municipalities enabling local population to deliver free of charge separately collected waste	Number of built sites for free delivery of separately collected waste	In all settlements of over 10,000 inhabitants and in all areas of cities with district division there are built sites for delivery of separately collected waste	Municipalities	
		Defining by municipalities of requirements for the sites of sites for waste paper and		Municipal budgets	2014-2015	Determined requirements to the sites for waste paper and cardboard,	Number of municipalities, which have determined requirements for the	All municipalities have adopted certain requirements for the sites for waste paper and cardboard,	Municipalities	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		cardboard, plastics and glass				plastics and glass	sites for waste paper and cardboard, plastics and glass	plastics and glass		
		Publishing on the websites of municipalities and wide dissemination of the exact locations of the sites for free delivery of separately collected waste, what waste and in what quantities it may be allowed on these sites, etc.		Municipal budgets	2014-2015	The public is informed of the location of the sites for free delivery of separately collected waste types and quantities of waste that can be transmitted	Number of municipalities that have published on their website with information about the location of the sites for separately collected waste types and quantities of waste collected	All municipalities have published on their website information about the location of the sites separately collected waste types and quantities of waste collected	Municipalities	
		Performing thematic inspections of RIEWs on the implementation by municipalities to specify the requirements for sites for delivery of separately collected household waste, compile a public register of their location and the type of waste received		Budget of Ministry of Environment and Water	2014-2015	A report to the Ministry of Environment and Water on the results of the controls carried out by the RIEWs	Number of thematic inspections conducted; Number of inspected municipalities;	Performed thematic inspections in all municipalities	RIEWs	
		Performing thematic inspections of RIEWs on the implementation by municipalities of the obligation to specify the requirements for separate collection of paper and cardboard, plastic, metal and glass from administrative, economic, trade and		Budget of Ministry of Environment and Water	2014	A report to the Ministry of Environment and Water on the results of the controls carried out by the RIEWs	Number of thematic inspections conducted; Number of inspected municipalities;	Performed thematic inspections in all municipalities	RIEWs	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		other sites								
		Performing thematic inspections of RIEWs implementation by municipalities of the requirement to provide sites for delivery of separately collected household waste		Budget of Ministry of Environment and Water	2014	A report to the Ministry of Environment and Water on the results of the controls carried out by the RIEWs	Number of thematic inspections conducted; Number of inspected municipalities	Performed thematic inspections in all municipalities	RIEWs	

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment

Programme to achieve the objectives and requirements for biodegradable waste including bio-waste



Most of waste from households and other organizations are biodegradable waste, which, with a few exceptions, have been landfilled until the adoption of the Plan. Therefore the Bulgarian legislation introduced specific quantitative targets for separate collection, recycling and recovery of municipal bio waste as well as targets for diverting biodegradable municipal waste from landfills. These objectives are as follows:

Objective of limiting the quantity of landfilled biodegradable waste⁸

The provisions of the Waste Management Act require that by 31 December 2020 there shall be limiting the amount of biodegradable municipal waste to 35 percent of the total of those wastes in the Republic of Bulgaria in 1995. This is compliant with the requirements of the European Directive on the landfill of waste.

Targets for separate collection and recycling of bio waste⁹

In addition to the common European objective, ambitious national targets for the recycling of household bio waste are envisaged in the Ordinance for the separate collection of bio-waste accepted in December 2013. The Ordinance requires mayors in each of the waste management regions under Article 49, paragraph 9 of the Waste Management Act (WMA) to achieve the following regional targets for separate collection and recycling of household bio waste:

- by 31 December 2016 - not less than 25 percent of the amount of municipal bio-waste generated in the region in 2014;
- by 31 December 2020 - not less than 50 percent of the amount of municipal bio-waste generated in the region in 2014;
- by 31 December 2025 - not less than 70 percent of the amount of municipal bio-waste generated in the region in 2014

Those objectives are being implemented jointly by all municipalities in the region, in line with the decision taken by the General Assembly of the respective RWMA.

An important prerequisite for achieving these objectives are part of the action taken in this direction so far, namely:

- it is approved a National Strategic Plan for the gradual reduction of biodegradable waste going to landfills by 2020;
- it is clearly defined in the Waste Management Act (WMA) that municipalities have a responsibility for waste management, including the setting of quantitative targets for biodegradable waste and adopted normative framework for bio-waste;
- economic instruments are implemented to stimulate municipalities to improve performance to limit the quantities of biodegradable waste, while those that meet the stated objectives of limiting quantities of biodegradable waste for recovery of bio waste are exempt from 50% of the charges due to disposal;

⁸"Biodegradable waste" means any waste, which is able to degrade anaerobically or aerobically, such as food and vegetable waste, paper, etc.

⁹"Biowaste" is biodegradable waste from parks and gardens, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing industry.

- investment projects are developed, approved for financing under OP „Environment 2007-2013” and under implementation for the construction of facilities for utilization of municipal bio waste in 17 RWMA and 2 RWMA funded by the Enterprise for Management of Environmental Protection Activities. In the largest city and capital of Bulgaria, Sofia, a modern facility for recovery of biodegradable waste already operates to produce energy and compost, while an MBT facility is under construction, while in the other two big cities - Plovdiv /Shishmantsi/ and Varna MBT facilities are also operating;
- in some localities across the country projects for home composting have been implemented;
- training programmes were implemented for municipalities in order to familiarize them with the rules for biodegradable waste and municipal best European practices in this area, as well as the expectations of municipalities in this area.

The programme for achieving the objectives and requirements for biodegradable waste includes measures, which can be classified provisionally as investment measures and non-investment measures.

Investment measures in the programme do not cover the above-mentioned projects approved under OP „Environment 2007-2013”, as well as other sources of funding regardless of the stage of implementation. These investments were taken into account in determining the need for building capacity, they are procured and it is not required to be explicitly included in National Waste Management Plan (NWMP) 2014 - 2020.

The programme for achieving the objectives and requirements for biodegradable waste provides for the necessary new investments related mainly to:

- Incineration of RDF fuel for Metropolitan (Sofia) Municipality - the third stage of Sofia Municipality’s integrated project of waste management, as fuel will be produced in the MBT facility;
- Construction of facilities for composting and anaerobic digestion both in RSWMA where facilities are built, but their capacity does not provide the whole region, and in RSWMA, which so far have not implemented any investment projects for composting and anaerobic digestion;
- Purchase and provision to households of composters for home composting;
- Purchase of containers for separate collection of bio waste and vehicles for the transport of separately collected bio waste.

The number, capacity, and value of:

- planned to build facilities for composting and anaerobic digestion; and
- planned to purchase composters for home composting,

are defined on the basis of prepared financial analyzes and related scenarios for the development of waste management activities. In total, the programme envisages the construction of facilities for composting and anaerobic digestion with total capacity of 654,000 tons at the total amount of BGN 287.7 million. Planned to purchase composters are about 500,000 units totaling BGN 29.9 million.

An indicative list of regions where it is feasible to build facilities for composting and anaerobic digestion is presented in an appendix to the National Waste Management Plan (NWMP). Specific areas will be determined upon completion of detailed feasibility studies,

EIA procedures and compliance assessments with the objectives of the NATURA 2000 network. An indicative list of regions where it is necessary to purchase and install composters for home composting is presented in an appendix to the National Waste Management Plan (NWMP).

Planned investments for the purchase of containers for separate collection of bio waste and vehicles for the transport of separately collected bio waste amount to BGN 102.8 million.

Another important investment measure of the programme is related to the incineration of RDF fuel for Metropolitan (Sofia) Municipality - the third stage of Sofia Municipality's integrated project of waste management. This system shall provide for recovery of RDF fuel, which will be obtained from recovery of waste in the MBT-plant in Sofia Municipality under construction at the time of approval of the National Waste Management Plan (NWMP) 2014-2020. According to preliminary studies and negotiations with the European Commission, this facility has an estimated value of BGN 254.26 million.

It is not intended to construct MBT plants. Mechanisms of public-private partnerships offer opportunities for municipalities to build such systems in the event that they wish to achieve higher goals. A successful example is the MBT plant constructed and operating in Varna.

The set of non-investment measures to achieve the objectives include the development of methodological instructions in order to facilitate the implementation of the legislative requirements for bio-waste as well as the establishment of a national organization to ensure the compost quality. Another included measure aims to facilitate the creation of a market for compost by establishing a national information system for market supply and demand of products from the utilization of bio-waste.

The programme itself does not include a significant part of the non-investment measures that are directly related to achieving the programme objectives, but are described in other programmes within the National Waste Management Plan (NWMP) 2014-2020, as they are horizontal and contribute to several goals and objectives of the plan. Directly related to achieving the objective of this programme are the measures of the other planned programmes relating to:

- carrying out information campaigns to encourage citizens to separate waste and to actively provide information on municipal waste;
- continued implementation of economic instruments through incentives and sanctions to result in the achievement of objectives (deductions for disposal, reduction of municipal waste fee for participants in separate collection systems);
- development of municipal regulations with specific rules and requirements for separate collection and recycling of bio-waste;
- development of municipal/regional waste management programmes wherein to identify the specific measures at the local level to reduce the quantity of landfilled waste and to increase the amount of recovered bio waste;
- conduct regular municipal studies for the morphological composition of household waste;
- determination of municipal waste fee mostly depending on the amount of waste disposed;

- training and enhancing the administrative capacity for inspections of waste management at municipal, regional and national level;
- measures for the development and implementation by the municipalities of electronic information systems for reporting on the implementation of targets for recycling and recovery of household waste;
- measures to improve the recovery and recycling of household waste paper and cardboard, including containers of same material as they are both biodegradable waste.

Implementation of the measures of this and other programmes within the National Waste Management Plan (NWMP) 2014-2020 ensure the gradual reduction of quantities of biodegradable waste and encourage the separate collection of bio-waste as regards composting and digestion, as well as for bio-waste treatment in a way that provides a high rate of environmental protection and the use of environmentally safe materials produced from bio-waste.

This programme implementation has significantly contributed to the objectives of reducing greenhouse gas emissions in accordance with the Third National Plan on Climate Change in 2020, as the implementation of the measures represent both biodegradable waste and measures to reduce and prevent the emission of methane from landfills.

Action plan to Programme to achieve objectives and requirements for biodegradable waste including bio-waste

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing quantities of recycled and recovered waste and reducing environmental risk from landfilled waste	Achieving the objectives and requirements for biodegradable waste						Annual amount of biodegradable municipal waste is below 50% of the total quantity of those wastes in the Republic of Bulgaria in 1995; 2016 - at least 25% of the amount of municipal bio-waste generated in the region in 2014 are separately collected and recovered	2020 - the amount of biodegradable municipal waste to 35% of the total of those wastes in the Republic of Bulgaria in 1995; 2020 - at least 50% of the amount of municipal bio-waste generated in the region in 2014 are separately collected and recovered		
		Development and publication of an invitation and instructions to municipalities to develop and implement projects for composting / anaerobic digestion of biodegradable municipal waste		OP „ENVIRONMENT 2014-2020”	2014	Municipalities have the guidance and the opportunity to apply for funding of facilities for composting / anaerobic digestion of biodegradable municipal waste	Stages of development and publication of the invitation	Published invitation with instructions to municipalities application to apply for funding of facilities for composting / anaerobic digestion of biodegradable municipal waste	MOEW - Managing Authority of OP „Environment 2014-2020”	MOEW - Waste Management Directorate
		Carrying out feasibility studies and preparation of municipalities of projects for composting / anaerobic digestion of biodegradable municipal waste, submitting project proposals to the Managing Authority of OP "ENVIRONMENT 2014 - 2020", prepared in accordance to the requirements and instructions made to the Municipalities, invitation to assessment by the Managing Authority of OP "ENVIRONMENT 2014 - 2020" on the submitted project		Municipal budgets – for projects preparation/“OP „ENVIRONMENT 2014-2020”– for projects assessment	2015	Contracts with Municipalities to build a composting / anaerobic digestion of biodegradable waste	Number of projects submitted	All submitted projects were approved	Municipalities	MOEW - Managing Authority of OP „Environment 2014-2020”

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		approval and contracting with Municipalities whose projects meet the requirements of the invitation								
		Implementation by municipalities of projects for composting / anaerobic digestion of biodegradable municipal waste	287,7	OP „ENVIRONMENT 2014-2020”/Budgets of municipalities	2018	Facilities for composting / anaerobic digestion of biodegradable municipal waste were constructed	Stages of execution under the project cycle of projects	All projects have been successfully completed and closed	Municipalities	Managing Authority of OP „Environment 2014-2020”
		Purchase and installation of composters for home composting	29,9	Budgets of municipalities	2014-2020	Purchased and installed composters	Stages of the procurement and execution of procurement contracts	All projects have been successfully completed and closed	Municipalities	Managing Authority of OP „Environment 2014-2020”
		"Construction of incineration of RDF fuel Metropolitan (Sofia) Municipality" - the third stage of Sofia Municipality's integrated project of waste management	254,26	OP „ENVIRONMENT 2014”-2020/Sofia Municipality budget	2016	Facilities for incineration of RDF fuel - Metropolitan (Sofia) Municipality	Stages of the project	The project was successfully implemented and completed	Sofia Municipality	Managing Authority of OP „Environment 2014-2020”
		Purchase of containers for separate collection of bio waste	53,08	OP „ENVIRONMENT 2014”-2020, EMEPA/State budget/Municipal budgets		Waste containers for separate collection of bio waste	Number of purchased waste containers; number of municipalities that purchased waste containers	All municipalities in Bulgaria with facilities for composting / anaerobic digestion bought containers for separate collection of bio waste	Municipalities	
		Purchase of vehicles for the transport of separately collected bio waste	49,80	OP „ENVIRONMENT 2014”-2020, EMEPA/State budget/Municipal budgets	2017	Purchased vehicles for the transport of separately collected bio waste	Number of purchased vehicles; number of Municipalities purchased vehicles	All municipalities in Bulgaria with facilities for composting / anaerobic digestion have purchased vehicles for the transport of separate collection	Municipalities	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
								of bio waste		
		Survey and complete information by municipalities of the sites in larger settlements that generate large quantities of food bio waste and green spaces in urban areas and neighbourhoods with yards, which generate larger amounts of green waste and potential for communal areas /green systems, infrastructure works, quarries, forests and pastures etc./ where it can be used in products produced from bio-waste.	2,5	Municipal budgets	2015	Information lists prepared by municipalities	Number of municipalities preparing lists of information	All municipalities have information about the sources and amounts of food bio waste and green waste	Municipalities	
		Development and approval of a decree by the Council of Ministers to approve the structure and functions of the National Organization for Quality Assurance in Compost		Ministry of Environment and Water budget	2014	Establishing national rules on the requirements for establishment, structure and functions of the National Organization for Quality Assurance in Compost	Stages of development and public consultation of the Council of Ministers' decree	Decree approved by the Council of Ministers of the structure and functions of the National Organization for Quality Assurance in Compost	Ministry of Environment and Water	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Establishment of National organization to ensure the quality of compost			2015	Functioning National Organization for Quality Assurance of Compost	Number of on-site checks to verify the management quality of composting facilities and compost produced; Number of training held for operators	Creating institutional conditions: ensuring by municipalities of the management quality of composting facilities; performing regular on-site checks and certifying compliance with the requirements of the quality assurance system in the management of composting facilities and compost produced; to provide training to operators of composting facilities	National Organization for Quality Assurance Compost	Municipalities, operators of composting facilities
		Development of Guidelines for determining the national technical requirements for waste treatment of bio-waste (composting and anaerobic digestion)		Budget of Ministry of Environment and Water	2014	Instruction approved by the Minister of Environment and Water	Number of held coordination meetings; Number of discussions on draft instructions	Established national technical requirements for waste treatment of bio-waste (composting and anaerobic digestion)	Ministry of Environment and Water	
		Development of Guidelines for the application of regulatory requirements related to the management of bio-waste		Budget of Ministry of Environment and Water	2014	Instruction approved by the Minister of Environment and Water	Number of held coordination meetings; Number of discussions on draft instructions	Established regulations for enforcement of regulatory requirements related to the management of bio-waste	Ministry of Environment and Water	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Development of Guidelines for the requirements for the management system to ensure the quality of final products (compost and fermentation product) and management of facilities for composting and anaerobic digestion		Budget of Ministry of Environment and Water	2014	Instruction approved by the Minister of Environment and Water	Number of held coordination meetings; Number of discussions on draft instructions	Created statutory prerequisites for ensuring the quality of final compost	Ministry of Environment and Water	
		Development of Guidelines for control and inspection of facilities for treatment of bio-waste.		Budget of Ministry of Environment and Water	2014	Instruction approved by the Minister of Environment and Water	Number of held coordination meetings; Number of discussions on draft instructions	Created statutory prerequisites for control and inspection of facilities for treatment of bio-waste.	Ministry of Environment and Water	
		Developing and maintaining a national electronic information system for products offered from the utilization of biodegradable waste and bio-waste /manufacturer, type, amount, possible uses, prices, transportation costs, location, etc./	0,6	Budget of the National Organization for Quality Assurance in Compost	2015	Established and functioning electronic system for products from recycled bio-waste - compost fermentation products, organic soil improver and stabilized organic fraction of MBT	Quantities of sold products from utilization of biodegradable waste	Annual quantity of products sold from the utilization of biodegradable waste; growth over the previous year	National Organization for Quality Assurance in Compost	Municipalities and operators contracted by municipalities to run the plant for biodegradable and bio-waste
		Training of municipalities on bio-waste treatment	0,2	"OPE 2014-2020", municipal budgets	2015	Raised awareness of municipalities and population on bio-waste treatment	Number of conducted trainings	All municipalities in the country have passed trainings on bio-waste treatment	National Association of Municipalities in Bulgaria/BAME	Managing Authority of OPE2014-2020

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment

Programme to achieve the targets for recycling and recovery of construction waste and waste from demolition



Waste from construction and demolition is highly recyclable and reusable. Thus, from an environmental problem it can be transformed into a useful resource. This is a basic approach to sustainable waste management imposed by the active EU policy in this sector. According to the Waste Framework Directive (WFD) by 2020, the preparing for re-use, recycling and other material recovery of non-hazardous construction and demolition should be increased to at least 70% of their total weight, excluding contaminated soil, earth and rock masses from excavations in natural state. These ambitious targets are envisaged in the national legislation by defining in a stepwise manner by year the targets for recycling and other recovery, to achieve the ultimate goal in 2020:

- by 1 January 2016 - at least 35 percent of the total weight of waste
- by 1 January 2018 - at least 55 percent of the total weight of waste
- by 1 January 2020 - at least 70 percent of the total weight of waste.

An important prerequisite for achieving these objectives are some of the actions taken to achieve these goals so far, namely:

- it was for the first time developed and approved a National Strategic Waste Management Plan on construction and demolition waste in the Republic of Bulgaria for the period 2011-2020;
- regulations were approved in the Waste Management Act (WMA) and the Ordinance on management of construction waste and use of recycled building materials. They clearly differentiate responsibilities of local, regional and central institutions, envisaging the following key requirements:
 - The contracting authority of an investment project is responsible for meeting the targets for recycling of construction waste.
 - The contracting authority is required to develop a plan for managing construction waste as part of its construction documentation for the investment project for the issuance of a building permit, which shall be approved together with the entire design project. The implementation of the Waste Management Plan on Construction Waste provides for traceability of the quantities of waste from the time of their formation until delivery for recycling or final disposal thereof. The introduction of this mechanism facilitates the control by the competent authorities to implement the requirements of the Ordinance both preventively – at the stage of issuance of a building permit, and subsequently - via the control of executed works and the procedure for site commissioning.
 - Contracting authorities of investment projects *financed with public funds* are responsible for the use in the construction of a certain percentage of recycled

materials or material recovery in backfilling. These percentages will increase gradually until 2020.

- Contracting authorities of construction and assembly works and/or removal of structures outside the preceding paragraph provide for selective separation and material recovery of certain types of waste to a minimum.

In addition to programmed and regulatory measures, the country already has several fixed and mobile facilities for recycling construction waste operating in Sofia and Rousse. Other facilities are constructed within a few integrated projects of RSWMAs by municipalities, which are expected to be commissioned in 2015.

The programme to achieve targets for recycling and recovery of construction waste and waste from demolition provides for measures for practical application of the legislation that can be provisionally described as investment measures and non-investment measures.

Investment measures under the Programme are mainly related to the implementation of projects for systems, equipment and facilities for selective demolition, preparation, recovery and recycling of construction waste and for production of recycled building materials. The need of building such facilities, the location and capacity thereof are defined in the National Strategic Waste Management Plan on construction and demolition in the Republic of Bulgaria for the period 2011-2020. Analyses of construction waste produced in the process of developing National Waste Management Plan (NWMP) 2014 -2020 have affirmed the need for these systems.

Since the National Strategic Waste Management Plan of Construction And Demolition Waste in the Republic of Bulgaria for the period 2011-2020 covers only areas where it is necessary to set up systems, equipment and facilities for selective demolition, preparation, recycling and recycling of construction waste and for the production of recycled building materials, of adequate capacity and without valuation of investments, then such valuation was prepared for the purposes of this programme. To this end, it has used the projected capacity of facilities to be constructed under the plan and estimate prices per ton for investment/capacity of such systems. It is possible also to coin a public-private partnership between businesses and communities, including the provision of suitable municipal land for construction of facilities.

The programme includes a set of "soft" measures related mainly to:

- Preparation of guidelines and sample standard requirements in the tender documents for procurement of construction (by contracting authorities at central, regional and local level) including requirements for: (1) preparation for re-use, recycling and other recovery of construction waste; preparation and implementation of management plans for construction waste as part of the project construction documentation and implementation of these plans as a condition for adjustment of investment projects; for use of recycled building materials in the construction works; training for contracting authorities.

- Support for projects of branch organizations of the construction industry and the production of building materials for the development of methodological and training materials / information portals in application of the relevant national legislation and policies relating to construction waste.
- Continued implementation of economic instruments through incentives and sanctions to result in the achievement of objectives / deductions for disposal of household waste and control.
- Integrated activities of recycling and recovery of waste from construction and demolition of buildings in the national certification system for sustainable development in Bulgaria
- Development and maintenance of a web-based platform for supply and demand of recycled building materials and second-hand building materials and promotion of a platform, etc.

This programme does not include a significant portion of the "soft" measures that are directly related to achieving the programme objectives, but are described in other programmes within the National Waste Management Plan (NWMP) 2014-2020. Directly related to achieving the objective of this programme are measures of other planned programmes relating to:

- Support for projects to create "green" jobs;
- Support for programmes for training and retraining of employees for the purpose of meeting the requirements of selective demolition and separation of construction waste in the construction process;
- Support for projects to hold a study by research teams, together with the business of the targeted sectors and preparing proposals for solving production waste issues, development of new product design and technology, allowing eased disassembly of products after use in order to facilitate their recycling and recovery as waste.
- Support for business projects to support companies in accreditation and other procedures to verify the "end of waste" under the Waste Framework Directive (WFD), which have adopted European regulations or national criteria end of waste and continue to support projects for carrying out accreditation procedures for the award of EMAS, ISO 14000.
- Support for projects of industry/employers' organizations to develop national criteria for "end of waste" under the Waste Framework Directive (WFD) for wastes which have not been adopted and developed under European regulations.
- Implementation of information campaigns to encourage individuals and businesses to separate waste and actively provide information on waste.

- Measures for the development and implementation of an integrated national system for reporting waste, including implementation of targets for recycling and recovery of a waste subsystem for construction waste.

Bulgaria has limited experience in this field, so that it requires sustained and coordinated efforts of central, regional and local authorities and business in the construction industry and its branch organizations. Implementation of measures and actions in this program, as well as part of the planned actions and measures included in other programmes within the National Waste Management Plan (NWMP) 2014-2020, but contributing to the objectives of this program, ensure that the ambitious targets for recovery and recycling of construction waste and demolition shall be met.

Action Plan to Programme to achieve the targets for recycling and recovery of construction and demolition waste from demolition

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing quantities of recycled and recovered waste and reduce environmental risk from landfilled waste	Reaching the targets for recovery and recycling of construction and demolition waste from demolition						2016 - at least 35% of the weight of construction waste prepared for re-use, recycling and other recovery; 2018 - at least 55% of the weight of construction waste prepared for re-use, recycling and other recovery	2020 - at least 70% of the weight of construction waste prepared for re-use, recycling and other recovery		
		Implementation of projects for systems, equipment and facilities for selective demolition, preparation, recovery and recycling of construction waste and for the production of recycled building materials	20	Business	2020	Funded and completed projects;	Number of existing systems / facilities / facilities	All approved systems / equipment and facilities are built; Reduced risk to the environment and human health from the harmful effects of these waste streams	Business	
		Preparation of guidelines, sample standard requirements in the tender documents for procurement of construction including requirements for preparation for re-use, recycling and other recovery of construction waste and for use in the construction of recycled building materials procurement officers at central, regional and local level; training entities	0,5	OP "Good Governance 2014-2020"	2015	Developed guidelines, standard requirements for tender documents for construction; trainings	Stages of project approval and award of the contract for the preparation of standard bidding documents and training	Tenders for public works contracts in the country include requirements for preparation for re-use, recycling and other recovery of construction waste, including use of recycled materials by type of construction sites	Ministry of Regional Development and Public Works	Municipalities, central and regional institutions - entities of investment projects
		Application of controls to meet the requirements of the Waste Management Act on construction waste and the Ordinance on construction waste		Budget of the Authority: issuing a building permit; supervise construction; performing approval and entry controls on construction sites in operation.	2014-2020	Review of the implementation of the requirements of the Waste Management Act on construction waste and the Ordinance on construction waste	The annual plans for control activities of the competent authorities included thematic inspections on compliance with the requirements for construction waste, the number of checks; number of sanctions; number up prescriptions	All requirements of the Waste Management Act on construction waste and construction waste ordinance	Municipalities; state construction control; Ministry of Regional Development and Public Works ;	Contractors of investment projects

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Control to continue the implementation of economic instruments through incentives and sanctions to result in the achievement of objectives / deductions for the disposal of construction waste /		Budget RIEWS	2014-2020	Implemented strict controls to meet the requirements of the Waste Management Act and the Ordinance on construction waste	Number of checks; number of sanctions; number of prescriptions	Actually paid all due contributions for construction waste	RIEWS	Municipalities
		Preparing rules and announcement of the invitation, including the option to support projects of branch organizations of the construction industry and the production of building materials for the development of methodological and training materials / information portals in application of the relevant national legislation and policies construction waste (including the development of a Waste Management Plan in the process of investment projects, opportunities and standards for use in the construction of recycled building materials; conducting large-scale training in this field)		OP "Good Governance 2014-2020"	2015	Drafted rules announced by the managing authority call for applications	Number of submitted projects / number of approved projects	Number of approved projects	Managing Authority of OP „Good Governance 2014-2020”	Branch organizations in the construction industry, including construction supervision and design and production of construction materials
		Implementation of projects to develop methodological and training materials / information portals in application of the relevant national legislation and policies relating to construction waste; conduct of large-scale training in this field	2	OP "Good Governance 2014-2020"	2020	Funded and completed projects	Stages of implementation of the approved project	Number of developed methodological / training materials;	Branch organizations in the construction industry and the production of building materials	Managing Authority of OP "Good Governance 2014-2020," Companies in the sector

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Update of Ordinance No 1 of 2000 on the design of roads, promulgated in State Gazette, issue 47/2000		Budget of the Ministry of Regional Development and Public Works	2014	The updated ordinance approved	Stages of development and adoption of the ordinance	Regulations on road design include requirements for recovery and recycling of construction materials	Ministry of Regional Development and Public Works	Road Infrastructure Agency
		Introduction of technical standards for the use of selected fractions such as waste and use of recycled building materials in backfilling, landscaping, filling pits, design and construction and rehabilitation of landfills	0,3	Ministry of Regional Development and Public Works budget	2015	Technical standards have been developed and are in force	The implementation phase of the contract for the development of technical standards	Designers dispose of technical regulations for inclusion in specific investment projects the use of recycled building materials	Ministry of Regional Development and Public Works	
		Integrating recycling and recovery of waste, construction and demolition of buildings in the national certification system for sustainable development in Bulgaria		Ministry of Regional Development and Public Works budget	2016	Approved and published requirements for certification systems for sustainable construction	Stages of developing a national certification system for sustainable construction	The national certification system includes requirements for recovery and use of recycled building materials	Ministry of Regional Development and Public Works	Branch organizations in the construction industry, including construction supervision and design and production of construction materials
		Included in the tender documents for construction of buildings the requirement for use in the construction of recycled building materials		Budget of public procurement contracting authorities	July 2014 - 2020	In the construction of buildings are integrated recycled building materials	2014 - 2016 - 1% 2017 - 2019- 1,5%	2020 - 2%	Public procurement Contracting Authorities	Developers
		The requirement for use in the construction of recycled building materials included in the tender documents for the construction of roads		Budget of public procurement contracting authorities	July 2014 - 2020	In the construction of roads are integrated recycled building materials or construction of treated waste material recovery in backfilling	2014 - 2015 - 5% 2016 - 2018- 8%	2019-2020 - 10%	Public procurement Contracting Authorities	Developers
		The requirement for use in the construction of recycled building materials included in the tender documents for the rehabilitation, overhaul		Budget of public procurement contracting authorities	July 2014 - 2020	In the repair of roads are integrated recycled building materials	2014 - 2017- 2%	2018-2020 - 3%	Public procurement Contracting Authorities	Developers

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		and reconstruction of roads								
		The requirement for use in the construction of recycled building materials included in the tender documents for the construction, reconstruction and capital repair of other buildings of the technical infrastructure		Budget of public procurement contracting authorities	July 2014 - 2020	In the construction of other buildings of the technical infrastructure are integrated recycled building materials	2014 - 2015 - 3% 2016 -2017- 5% 2018 - 6% 2019 - 7%	2020 - 8%	Public procurement Contracting Authorities	Developers
		The requirement for recovery of construction waste backfilling included in the tender documents for construction		Budget of public procurement contracting authorities	July 2014 - 2020	Construction waste is re-used in backfilling	2014 - 8% 2015 - 9% 2016 - 10% 2017-2019 - 11%	2020 - 12%	Public procurement Contracting Authorities	Developers
		Review of the content, procedure, and the stage which requires a Plan for management of construction waste		Budget of MOEW and MRDPW	2014-2015	Amendment of the Regulation on construction waste management	Review of the contents	New requirements adopted	MOEW	Ministry of Regional Development and Public Works

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment

Programme to achieve the targets for recycling and recovery of widespread waste



At the time of elaborating the National Waste Management Plan (NWMP) 2014-2020, under the national law, annual targets for recycling and recovery of six groups of widespread waste have been set¹⁰:

- Packaging waste – from 2004
- End-of-life vehicles (ELV) – from 2005
- Waste electrical and electronic equipment (WEEE) – from 2006
- Waste oils and petroleum products – from 2006
- Waste batteries and accumulators – from 2006
- Waste tires – from 2011

Targets for recycling and recovery of packaging waste, end-of-life vehicles (ELV), waste electrical and electronic equipment (WEEE) and batteries and accumulators on the European level, while in Bulgaria national targets for waste tires and waste oil and oil products are pre-set and in implementation. Targets for recovery and recycling of the six groups of widespread waste throughout the country have been successfully implemented by a scheme based on the extended producer responsibility principle.

The present Programme to achieve the targets for recycling and recovery of widespread waste includes mainly non-investment measures, which can be grouped as follows:

- Strengthening control activities by applying annual and current audits on procedures agreed upon by the Ministry of Environment and Water on the activity of persons performing activities on collection and treatment of widespread waste and persons placing on the market products after whose use widespread waste is generated.
- Consulting with various stakeholders on the proposals for: changes in the targets for recycling and recovery; introduction of technical requirements to the widespread waste collection and treatment; establishing mechanisms for better coordination between the municipalities and the organizations for recovery of widespread waste.

The programme does not include all measures that contribute to achieving the objectives of this programme, but are included in other programmes of measures within the National Waste Management Plan (NWMP) 2014-2020, as they are horizontal and contribute to the achievement of several goals and objectives under the plan or are predominantly aimed at achieving the objectives of another programme. Directly related to achieving the objective of this programme are the measures of the other planned programmes relating to:

- Implementing information campaigns to encourage people to collect waste separately and actively provide information on widespread waste.
- Continued implementation of economic instruments through incentives and sanctions to result in the achievement of objectives (product fee, deductions for disposal, and incentives for participating in separate collection systems).
- Strengthening the control to reduce and minimize the illegal collection, storage and disposal of ELVs;

¹⁰ According to the Waste Management Act (WMA) "widespread waste" means waste that occur after use of products from multiple sources throughout the country, and because of their characteristics require special management.

- Development of criteria for distinguishing used cars suitable for direct reuse and auto parts from those that constitute waste, and strengthening the control by the relevant competent authorities;
- Prevent unauthorized disposal of used motor vehicles, in order to obtain components for reuse;
- Extension of waste batteries and accumulators collection systems by providing sites and collection containers in locations where there are none;
- Strengthening control of traders offering BA on the market to perform their obligations to provide collection containers for BA and information to consumers about the places of transmission of BA;
- Developing national "end-of-waste" criterion for waste tires;
- Study the compliance of liquid, solid and gas fractions obtained by pyrolysis of waste tires with the provisions of the Waste Management Act for "end of waste" and study in order to identify waste streams for which there is a need to examine status "end of waste";
- Strengthening the control and measures to limit the unregulated burning of waste oils;
- Development of municipal ordinances with specific rules and regulations for separate collection and recovery of recyclables, in particular to separate collection and transfer of waste from industrial, commercial, administrative, and educational institutions; rules for operation and use by citizens and companies of municipal sites for transmission of separately collected waste;
- Development of municipal/regional waste management programs with identifying the specific measures at local level for achieving the recycling targets for WSW and household waste;
- Definition of rules for spending funds from product fees paid to EMEPA and reporting of results, to support systems for separate collection of WSW in the country, including by funding information campaigns;
- Introduction of mechanisms to improve the monitoring of recycling targets for WSW and preventing the reporting of non-WSW, for example: reporting of mixed paper waste for achieving the targets of recycling of packaging waste, etc., reporting of metal scrap with other origin for achieving the targets for recycling of WEEE, etc.
- Measures to create "green" jobs in the business of recycling and recovery of waste, as well as training programmes and training and retraining in this area;
- Wider application of "green" procurement, such as the requirement to supply the administration with recycled office paper, etc.
- Measures for financing of projects under Operational Programme "Competitiveness and Innovation" 2014-2020 for high-tech solutions for optimizing production processes and reduce the use of raw materials; introducing modern technologies to use waste as a raw material in new production and/or other alternative applications, technologies for the production of "green products", etc..

The implementation of the programme measures should take into account in the upcoming change and liberalized inspections of shipments of non-hazardous recyclable waste to Bulgaria from the beginning of 2015 as the result of possible increase in shipments of waste

to Bulgaria, mainly waste plastic, paper, cardboard and glass. Repealing the existing regime for shipments of non-hazardous recyclable waste to Bulgaria will affect mainly the recyclable market of lower quality waste from facilities for separation of mixed municipal waste. However, we do not expect significant additional difficulties for the recycling nationwide.

Implementation of the measures of this programme and pertinent measures under other programmes of the National Waste Management Plan (NWMP) 2014-2020 encourage separate collection and improve the quality of collected recyclable waste materials from the six common waste streams. Implementation of the programme will result in reduction of usage of raw materials from nature and pollution from uncontrolled waste disposal, creating new jobs, and increased life of landfilled residual waste that cannot be recovered.

Specific measures for management of packaging waste

The present plan confirms the existing model of management of packaging waste, based on the principle of extended producer responsibility.

Studies of MOEW in 2011 do not confirm the appropriateness of introducing mandatory deposits for disposable packaging for beverages. This possibility will be reviewed again in the period after 2016, taking into account the results of the systems for separate collection of packaging waste from households.

Regardless of the results, the analysis of the current situation confirms the need for further action and measures to improve the management of packaging waste, as main attention should be paid to the optimization of the system of separate collection of waste from households and creating an effective model for interaction between municipalities and packaging recovery organizations in implementing the targets of recycling of household waste.

The plan provides for the following specific measures related to the management of packaging waste:

- Giving priority to systems for separate collection of waste at source, which should contribute to the maximum extent for the implementation of the objectives for preparation for reuse, recycling and recovery to the sorting of mixed municipal waste.
- Extending the scope and improving the effectiveness of systems for separate collection of packaging waste from paper, plastic, glass, metal and other similar waste, by including new municipalities in Bulgaria and changes in the criteria for covered population, taking into account the particularities of municipalities: geographic location, quantities of packaging waste, economic development, distance from treatment facilities, relief, etc.
- Measures taken by municipalities to achieve targets for recycling of household waste from paper, cardboard, plastic, metal and glass, as packaging waste is a part of the four municipal waste flows and it is appropriate to combine the achievement of the two types of targets.
- A clearer definition of the obligations of municipalities and WSW recovery organizations in terms of systems for separate collection of waste paper, plastics, glass and metals and the implementation of targets for household waste recycling. In

implementation of the measure, MOEW will initiate discussions and signing of an agreement between the municipalities in Bulgaria, represented by the NAMRB and organizations for recovery of packaging waste on the implementation of a national system for separate collection and recycling of recyclable waste, including packaging waste and control mechanism for its implementation.

- The implementation of these obligations should ensure development of an effective system of separate collection and sorting of recyclable packaging waste and other sources through sharing of costs between municipalities and recovery organizations with clear definition of their operational and financial responsibilities on the basis of the actual quantity of waste in each municipality and region.
- Starting consultations with stakeholders, incl. representatives of municipalities, recovery organizations, recycling industry and NGOs, to review existing targets for recycling and recovery of packaging waste. These consultations should consider raising the overall targets for recycling and recovery of packaging waste, to the levels allowed by the European legislation, so as to contribute to the maximum extent for the implementation of household waste recycling targets, as well as setting individual targets for recycling of packaging waste generated by households and by other sources.
- Optimization of the existing information system for packaging and packaging waste in a way that allows evaluation of the amounts of packaging placed on the market by their type (consumer, group and transport) and ability for their reuse and evaluation of quantities of separately collected waste packaging, according to their type and origin.
- Introduction of targets for separate collection of recyclable waste, incl. packaging waste, in the municipal waste management programs and contracts between municipalities and recovery organizations depending on the amount of waste from households and other sources in the municipality.
- Update technical requirements for systems for separate collection of recyclable waste, including packaging waste, to ensure the effective operation of the system, following consultations with stakeholders. In order to achieve high levels and quality of separate collection of waste at source, the technical requirements should consider increasing the volume of the provided containers for separate collection per inhabitant and transition to individual collection vessels in areas with family houses. The technical requirements should also consider the need for changes in the collection of mixed municipal waste so that it may assist the systems for separate collection, as well as the future implementation of separate collection of bio-waste from households.
- Discussion and adoption of measures to restrict the collection of recyclable waste from containers for separate collection, containers for mixed waste and landfills, by unauthorized individuals, incl. by introducing regulations, greater involvement of local authorities and other supervisory bodies and initiating measures to create alternative employment for the informal sector, health education, educational programs, etc. The proposed measures should be included in a comprehensive program for working with the informal sector. The program should take into account all aspects of the problem, incl. social and health impact, and ensure the preservation and achieving higher levels of waste recycling in the country. Suggested measures should be preceded by an analysis of the problem, incl. estimation of the number of persons engaged in informal waste collection, cost and benefit analysis, estimation of causes and ways to reduce

negative social, health and financial impacts for the society, with the participation of the competent state institutions, including MOEW, MH, Ministry of Interior, MLSP, MES and MTITC; companies dealing with waste; NGOs and municipalities.

- Giving priority to recycling of glass packaging to new packaging to their incorporation in the production of construction materials, including by setting quantitative targets.

The implementation of these measures will require the active participation of all stakeholders, incl. municipalities, and branch organizations of producers and importers of packaged goods, recovery organizations, recycling industry, public administration and NGOs, to find successful solutions leading to improvement of waste management in the country and increasing of the recycled amounts.

Action Plan to Programme to achieve the targets for recycling and recovery of widespread waste

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing quantities of recycled and recovered waste and reduce environmental risk from landfilled waste	Implementing targets for recycling and recovery of widespread waste						Packaging waste – annually, 56% of the weight of the packaging waste generated is recovered; 54.9% of the weight of packaging waste is recycled	Packaging waste - 2020 - 56% of the weight of the packaging waste generated is recovered; 2020 - 54.9% of the weight of packaging waste is recycled		
							End-of-life vehicles (ELV) - 2015 and annually thereafter, at least 95% of the weight of each end-of-life vehicle (ELV) accepted in the site for collection and storage or dismantling centers is recovered; 2015 and annually thereafter at least 85% of the weight of each end-of-life vehicle (ELV) adopted in waste collection and storage or dismantling centers is recycled	End-of-life vehicles (ELV) - 2020 at least 95% of the weight of each end-of-life vehicle (ELV) accepted in the site for collection and storage or dismantling centers is recovered; 2020 at least 85% of the weight of each end-of-life vehicle (ELV) adopted in waste collection and storage or dismantling centers is recycled		
							WEEE - 2016 collected separately at least 41% of the average weight of EEE placed on the market during the previous three years; 2017 separately collected at least 48% of the average weight of EEE placed on the market during the previous three years; 2018 separately collected at least 55% of the average weight of EEE placed on the market during the previous three years; 2019 separately collected at least 60% of the average weight of EEE placed on the market during the previous three years	WEEE-2020 separately collected at least 65% of the average weight of EEE placed on the market during the previous three years		
							Wastes from waste oil - annually at least 40% of the amount of oil placed on the market in the current year	Wastes from waste oil - 2020 at least 40% of the amount of oil placed on the market during the year		

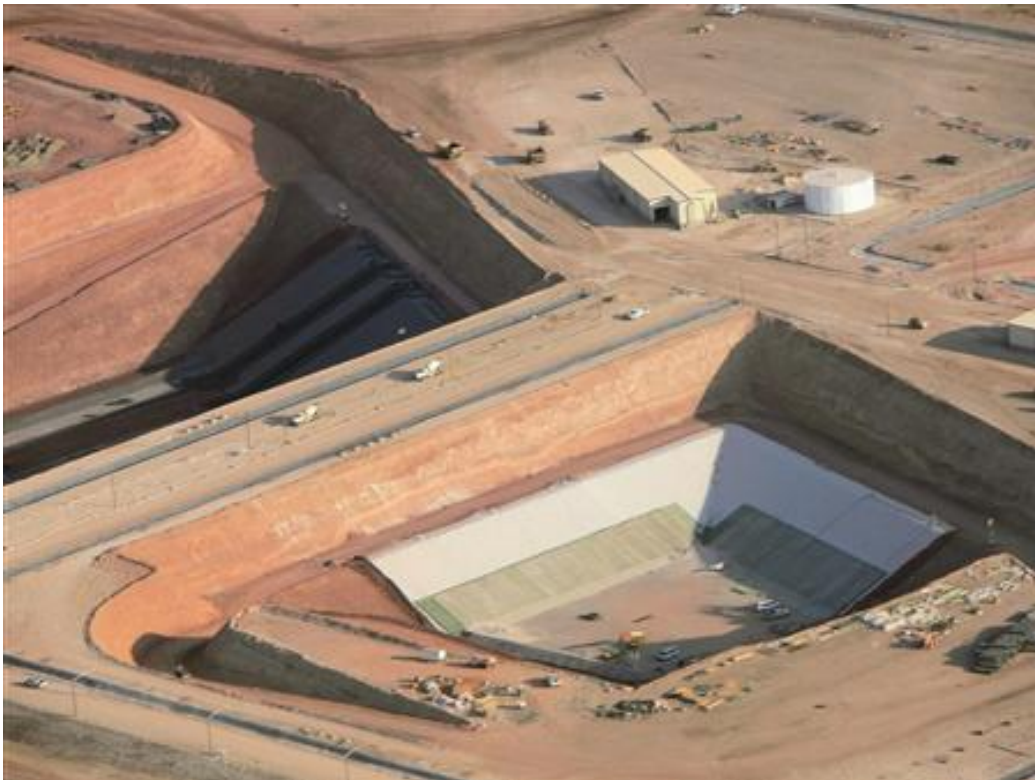
Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
							Waste tires – recovered annually at least 65% of the amount of tires placed on the market in the previous year; 2014 recycling at least 20% of the quantity of tires on the market; 2015 recycling at least 25% of the quantity of tires on the market; 2016 recycling at least 30% of the quantity of tires on the market; 2017 recycling at least 35% of the amount of tires placed on the market; 2018 recycling at least 40% of the quantity of tires placed on the market; 2019 recycling at least 45% of tires placed on the market	Waste tires - 2020 recovered at least 65% of the amount of tires placed on the market in the previous year; recycling at least 50% of the quantity of tires placed on the market		
							Waste portable batteries and accumulators (PBA) - 2014 separately collected at least 40% of marketed portable batteries and accumulators (PBA), excluding portable batteries and accumulators (PBA), which have been placed on the market, but are exported or sent from the territory of the country; 2015 and each subsequent year - separately collected at least 45% of marketed portable batteries and accumulators (PBA), excluding portable batteries and accumulators (PBA), which have been placed on the market, but are exported or sent from the territory of the country	Waste portable batteries and accumulators (PBA) - 2020 collected separately at least 45% of marketed portable batteries and accumulators (PBA), excluding portable batteries and accumulators (PBA), which have been placed on the market, but are exported or sent from the territory of the country		
							Waste of automotive batteries and accumulators - annually collected separately 100% of marketed automotive batteries and accumulators	Waste of automotive batteries and accumulators - 2020 collected separately 100% of marketed automotive batteries and accumulators		
		Consultation to resolve problems with recovery of glass from end-of-life vehicles (ELV)		Ministry of Environment and Water budget	2015	Consultations held	Number of discussions	Arrangements made for the recovery of glass from end-of-life vehicles (ELV)	Ministry of Environment and Water	RO of end-of-life vehicles (ELV) and glass recycling companies

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Consultation with stakeholders to introduce tax for composite packaging in order to stimulate the introduction of eco-design of packaging to be easily recycled		Ministry of Environment and Water budget	2015	Consultations held	Number of discussions	Tax introduced for all composite packaging placed on the market; reduced amounts of composite packaging	Ministry of Environment and Water, Ministry of Finance	RO, recyclers, consumer organizations, retailers, etc.
		Identifying all persons liable under the widespread waste scheme and providing online access for RIEWS to this information in order to carry out checks on all persons liable under the scheme		Ministry of Environment and Water budget	2015	Identify all persons liable in widespread waste schemes; provided access to information for RIEWS	Number of identified stakeholders	All persons responsible for widespread waste schemes are entered in the records of payers	Ministry of Environment and Water	Environment Executive Agency
		Making annual current audits on procedures agreed upon by the Ministry of Environment and Water to meet the objectives for the use of widespread waste along the entire waste route		Ministry of Environment and Water budget	2020	Carried out according to agreed procedures by the Ministry of Environment and Water for the waste operators and persons performing duties individually	Number of inspections conducted	Scrutinize the waste operators and persons performing duties individually	Ministry of Environment and Water	RIEWS
									Ministry of Finance	RO
		Consultation with stakeholders to introduce a mandatory deposit system for some packaging /beverage packaging such as reusable etc./		Ministry of Environment and Water budget	2015	Decisions on deposit systems for packaging certain groups are taken into dialogue with stakeholders	Protocol of the meetings for consultations	Protocol with final decisions on how to manage these groups of waste streams	Ministry of Environment and Water	Sector organizations and associations of business stakeholders
		Providing a distinctive sticker for households and companies included in the system for separate collection of packaging waste		Recovery organizations		Stickers available to citizens and businesses	Number of stickers provided	Creating incentives to improve the collection of waste paper, cardboard, plastic and glass	RO	Households and businesses

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		A study in Bulgaria to determine the levels of POPs (PBDE and PFOS) in plastic waste from dismantling of waste electrical and electronic equipment (WEEE) and end-of-life vehicles (ELV) for recovery, recycling and re-use and/or disposal, if the threshold limit concentrations of POPs	0.3	State budget, OP „Good Governance 2014-2020”	2017	Conducted a study to determine the levels of POPs (PBDE and PFOS) in plastic waste from dismantling of waste electrical and electronic equipment (WEEE) and end-of-life vehicles (ELV)	Stages of the project	The project was completed within the agreed term	Ministry of Environment and Water	Business

Objective 2: Increasing the amount of recycled and recovered waste by creating conditions for building a network of facilities for treatment of all waste generated, to reduce the risk to the population and the environment

Programme to improve the management hierarchy of other waste streams and to reduce the risk to the environment from landfills



The Programme to improve the management hierarchy of other waste streams and to reduce the risk to the environment from landfills includes two large groups of measures from the point of view of different waste streams included in the other four programmes of measures to achieve Objective 2 of the National Waste Management Plan (NWMP) 2014-2020.

The first group of measures relates to improving the management of industrial waste, and includes specific measures to improve the management of specific industrial waste streams including:

- Hazardous waste
- Waste from health establishments
- Sludge from WWTP

Appropriate measures are both investment and non-investment measures. Investment measures aim at financial support of both public projects (for example, construction of equipment and facilities for treatment of WWTP sludge in settlements) and business projects (for example, technological innovation, leading to the prevention and reduction of waste from production activities of enterprises and increasing the amount of recycled waste).

"Soft" measures aim at improving the capacity, knowledge and skills in the manufacturing sector in the application of the waste management hierarchy and help create "green" jobs in the recycling industry, introduce environmental management systems, maintain updated information on the possibilities of using appropriately treated sewage sludge to improve the environment and reduce greenhouse gas emissions, enhanced information for facilities for hospital waste, conducting research and demonstration projects for hazardous waste generated by households in the country .

This group of measures should also take into account the need for market development of alternative fuels (RDF), resulting from municipal waste treatment. Given the planned significant increase in quantities of produced alternative fuels as a result of the implementation of investment measures under the plan and the limited capacity of cement plants for RDF utilization, this programme provides, if necessary, for introducing temporary bans and/or restrictions for shipments to Bulgaria for incineration or co-incineration with energy recovery (Article 98, paragraph 1 and paragraph 2 of the Waste Management Act) and corresponding restrictions are justified by the principles of proximity, priority for recovery and self-sufficiency at Community and national level in accordance with the Waste Framework Directive and Regulation (EC) No. 1013/2006 on shipments of waste.

The second group of measures relates to reducing the risk to the environment from landfills, including reduction and prevention of greenhouse gas emissions of methane from landfills, including:

- Suspension of the operation of municipal waste landfills that do not fully comply with the regulatory requirements through building landfills/additional cells and other site

infrastructure for certain regional associations where such landfills are currently non-available and construction of new cells for residual municipal waste in regions where the capacity of existing landfills will be exhausted in the recent years.

- Measures relating to transfer stations for municipal waste.
- Measures for closure and rehabilitation of municipal landfills with terminated operation, giving priority to projects providing for the recovery of useful components in the implementation of reclamation activities.
- Other measures to prepare for the recovery and recycling of household waste and prevent greenhouse gas emissions from landfilled waste, including implementing the measures in the National Action Plan in sector Household Waste related to the Global Methane Initiative.

Measures in this group are mainly focused on investment. They do not include projects that are approved under OP “Environment” 2007-2014, as well as other sources of funding regardless of their stage of implementation at the time of development of the National Waste Management Plan (NWMP) 2014-2020. These investments are approved for funding and at different stages of implementation and do not require explicit inclusion in the Waste Management Plan 2014 - 2020.

This programme envisages the following investments:

- 10 projects for building landfill/additional cells and other neighbouring site infrastructure for separate regional associations worth BGN 116.8 million in total. An indicative list of regions where such projects are implemented is presented in an appendix to the National Waste Management Plan (NWMP). Specific areas will be determined upon completion of detailed feasibility studies, EIA procedures and compliance assessments with the objectives of the NATURA 2000 network.
- 6 projects for construction of transfer stations worth BGN 48.6 million in total. An indicative list of regions where such projects are implemented is presented in an appendix to the National Waste Management Plan (NWMP). Specific areas will be determined upon completion of detailed feasibility studies, EIA procedures and compliance assessments with the objectives of the NATURA 2000 network.
- projects for closure and rehabilitation of phased municipal landfills or whose operation is to be terminated with recovery of accumulated wastes, where possible, worth BGN 176.6 million in total.
- projects for facilities in preparation for recovery and recycling of waste and prevent greenhouse gas emissions from landfilled waste, worth BGN 52 million in total.

As a result of the implementation of this programme, the following major positive changes are expected during the planning period:

- First, to minimize the risk from landfilling to the environment, by discontinuing short-term operations in the last municipal landfills that do not meet the legal requirements
- Second, to minimize the risk to the environment and reduce greenhouse gas emissions through the closure and rehabilitation of environmental standards for all phased landfills
- Third, the efficient use of waste as a resource by utilizing the beneficial components in the process of closure of all phased landfills
- Fourth, to increase the share of recycled and recovered waste from production and to improve the management of specific hazardous waste streams
- Fifth, reduction of the risk of generated by the households waste from medicine and other medical products.

The National Action Plan in sector "Household waste" in connection with the Global Methane Initiative provides measures to control methane emissions from landfills in Bulgaria and implementation of international obligations of the country for reducing emissions of greenhouse gases. The measures, planned to be implemented in the period 2016 - 2020, include:

- Capture and flaring of landfill gas in 6 regional landfills by 2016
- Energy production from landfill gas in 3 regional landfills by 2016
- Capture and flaring of landfill gas in all regional landfills by 2020
- Energy production from landfill gas in all landfills, where the possibility for realization is estimated as positive

Furthermore, the plan includes measures to develop the administrative capacity and development of projects for landfill gas management:

- Increase of awareness and capacity building for owners and operators of priority landfills (municipalities and private companies).
- Technical assistance provided in cooperation with the Global Initiative for methane
- Preparation of priority list of landfills with the highest potential for utilization of landfill gas
- Development of guidelines for designing and conducting training for better control, management and utilization of landfill gas.
- Promoting partnerships between municipalities and the private sector

- Creating favorable conditions for utilization of landfill gas to energy, including facilitation of access to electricity distribution companies with preferential tariffs for energy utilization of landfill gas.
- Development of guidelines for verification and control of activities of landfills regarding the management of landfill gas

The expected results from the implementation of the measures in the plan are:

- Landfill gas management in accordance with legal requirements
- Prevented emission of 3309 million metric tons of carbon dioxide equivalent by 2020, representing 2.5% of current emissions of greenhouse gas.
- 315 GWh/year of energy generated from the utilization of landfill gas and 36 MW installed capacity by 2020.
- About 80-120 jobs opened in the sector of waste management.

Action Plan to Programme to improve the management hierarchy of other waste streams and to reduce the risk to the environment from landfills

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing quantities of recycled and recovered waste and reducing environmental risk from landfilled waste	Improving the management hierarchy of other waste and reducing the environmental risk from landfills						Increase the proportion of recycled industrial waste in 2016 compared to 2010; annual increase in the number of landfills in discontinued operations that are closed and reclaimed	Increase the proportion of recycled industrial waste against 2016; to 31.12.2015 100% of household waste destined for disposal are disposed of in landfills that meet the regulatory requirements; in 2020 all landfills with discontinued operations were closed and reclaimed		
		Construction of landfills / additional cells and other neighbouring site infrastructure	116,8	Municipal budgets/ State budget/EMEPA	2015-2018	Landfill / additional cells and other infrastructure	Stages of the procurement and execution of procurement contracts	Reduced risk to the environment resulting from the disposal of waste at landfills that meet all requirements	Municipalities	
		Construction of transfer stations	48,6	State budget/EMEPA/Municipal budgets	2015-2018	Built transfer stations	Stages of the procurement and execution of procurement contracts	Reduced risk to the environment resulting from the disposal of waste at landfills that meet all requirements	Municipalities	
		Project preparation for closure of phased municipal landfills or whose operation is to be suspended where possible - with recovery of useful components	17,66	Municipal budgets	2016	Drafted for closure of municipal landfills and announced orders	Number of Projects; number of announced orders	Projects for closure of all municipal landfills terminated service or whose service are up to one year to be discontinued	Municipalities	
		Drafting rules on application and announcement of a call for projects for the closure of phased municipal landfills with priority being given to projects involving the recovery of useful components in the waste		EMEPA budget	2016	Elaborated rules on the application by the Municipalities to fund their projects for reclamation of landfills with discontinued operations	Stages of preparation and approval of the application rules by municipalities	Published rules and announced a call for applications from Municipalities	EMEPA	Ministry of Environment and Water
		Implementation of projects for closure of phased municipal landfills	176,6	State budget/EMEPA/Municipal budgets	2019	All phased landfills are reclaimed; reduced use of natural resources through waste recycled; reduced greenhouse gas emissions	Stages of the procurement and execution of projects for rehabilitation of phased landfills	All contracts for the procurement of reclamation of old landfills have finally met and payments	Municipalities	EMEPA

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Implementation of projects for facilities in preparation for the recovery and recycling of waste and prevent greenhouse gas emissions	52,00	„OP Environment 2014 – 2020” /State budget	2020	Facilities for preparation for recovery and recycling of waste; reduced greenhouse gas emissions	Stages of the procurement and execution of projects for construction of facilities	Contracts for the projects are completed commissioned facilities	Municipalities	Ministry of Environment and Water
		Consultation to discuss possible approaches and timetable for gradually solving the problems with generated and disposed of thermal and metallurgical waste and conclusion of voluntary agreements with industry organizations		Budget of Ministry of Environment and Water	2018	Protocol from consultations held to discuss possible approaches and timetable for gradually solving the problems with generated and disposed of thermal and metallurgical waste	Number of meetings for consultation	Signed voluntary agreements to gradually resolve the issues with the generated and disposed of thermal and metallurgical waste and conclusion of voluntary agreements with industry organizations	Ministry of Environment and Water, Ministry of Economy, Ministry of Energy	Branch organizations and businesses from targeted sectors; technological institutes of the Bulgarian Academy of Sciences
		Preparation of rules and invitation including the possibility of funding high technological solutions for optimization of production processes and reduction of use of raw materials; modern technologies for waste as resources in new productions and/or other alternative applications, production of “green products”, etc.		Budget of OP „Innovation and Competitiveness 2014-2020”	2015	Drafting rules to apply for funding for new product design and technology to improve the waste management hierarchy	Stages of preparation and approval of the application rules	Published rules and call for applications to the beneficiaries	Ministry of Economy	
		Implementation of projects for new product design and new technologies to improve the waste management hierarchy	7	Budget of OP „Innovation and Competitiveness 2014-2020”	2020	Developed innovative new products and technologies that improve the waste management hierarchy	Stages of implementation of projects	All contracts for the projects have been completed and payments	Business and scientific organizations	Ministry of Economy
		Preparation of rules and invitation including the possibility of funding for technological modernization of production, moving to a higher level of the hierarchy of waste from Bulgarian enterprises.		Budget of OP „Innovation and Competitiveness 2014-2020”	2015	Drafting rules for applying for funding for technological innovation in order to improve the waste management hierarchy	Stages of preparation and approval of the application rules	Published rules and call for applications to the beneficiaries	Ministry of Economy	
		Implementation of projects for technological innovation to improve the management hierarchy of waste from production	50	Budget of OP „Innovation and Competitiveness 2014-2020”	2020	Introduced new technologies that improve the waste management hierarchy	Stages of implementation of projects	All contracts for the projects have been completed and payments	Business	Ministry of Economy

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Drafting rules and announcement of the invitation including the possibility of funding for research and development of proposals for reducing the amount of disposed waste generated from production, including hazardous waste		OP „Science and Education for Smart Growth 2014-2020”	2016	Drafting rules to apply for funding of projects and research and development of proposals for solving problems with the most widely generated hazardous waste	Stages of preparation and approval of the application rules by municipalities	Published rules and announced a call for applications to the beneficiaries	Ministry of Education and Science	
		Implementation of research projects and preparing proposals for solving problems with the most widely-generated waste from production, including hazardous waste	15	OP „Science and Education for Smart Growth 2014-2020”	2018	Produced practical solutions to the problems of the most widely generated hazardous waste from production	Stages of the procurement and execution of projects approved for funding	All contracts for projects are finally completed and payments	Business and research organizations	Ministry of Education and Science
		Establishment of a register of current status and capacity of facilities for treatment of medical and biological waste as part of a future integrated system for waste management		Budget of Ministry of Environment and Water	2015	Establishing a register of current status and capacity of facilities for treatment of medical and biological waste	Stages of the procurement and execution of contracts	Available complete information about the current status and capacity of facilities for the treatment of medical and biological waste	Ministry of Environment and Water, Ministry of Health	Environment Executive Agency
		Amendment to Ordinance 28 on the terms and conditions for the disposal, processing or use for other purposes of drugs		Budget of Ministry of Health	2016	Establishing rules for collection and treatment of medicinal products, bandages and other medical products generated by households	Stages of elaboration and adoption of the ordinance	Amended ordinance adopted	Ministry of Health	MOEW
		Drafting rules on and announcement of the call for funding for treatment of sludge from waste water treatment plants of WWTP already built		Budget of OP „Environment 2014-2020” under Priority Axis 1 "Water Management"	2015	Drafting rules to apply for funding of projects to solve problems with sludge of currently operating WWTP	Stages of preparation and approval of the application rules by municipalities	Published rules and announced a call for applications to the beneficiaries	Ministry of Environment and Water	
		Implementation of projects for treatment of sludge from WWTP in operation without a sustainable solution for sludge generated	20,7	OP „ENVIRONMENT 2014-2020”, under Priority Axis 1 „Water Management”	2020	Built facilities for sustainable disposal of sludge from waste water treatment plants; reduced greenhouse gas emissions	Stages of the procurement and execution of contracts for the rehabilitation of phase landfills	All contracts for the procurement of projects for disposal of sludge from waste water treatment plants have been completed and payments	Municipalities, water operators	Ministry of Environment and Water
		Drafting rules on and announcement of the call for project finance business to create "green" jobs in the recycling and recovery of waste		Budget of OP "Human Resources Development 2014 - 2020"	2015	Drafted rules for applying for funding for the creation of "green" jobs in the recycling and recovery of waste	Stages of preparation and approval of the application rules	Published rules and announced a call for applications to the beneficiaries	Ministry of Labour and Social Policy	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Implementation of projects to create "green" jobs related to recycling industry	20	Budget of OP "Human Resources Development" 2014 - 2020	2015 - 2020	Created new "green" jobs in recycling and recovery of waste	Stages of the project to create "green" jobs	All approved projects for the implementation of projects to create new "green" jobs in the recycling and recovery of waste are met	Business	Ministry of Labour and Social Policy
		Included in programmes for training and retraining acquisition of skills related to the recycling industry	0,2	Budget of OP "Human Resources Development" 2014 - 2020	2015 - 2020	Trained workers for the industry of recovery and recycling of waste	Stages of preparation and approval of the application rules	published rules and announced a call for applications to the beneficiaries	Ministry of Labour and Social Policy	
		Developing and maintaining a national electronic information system for the products of treated sewage sludge for agriculture and land reclamation / manufacturer, type, quantity, possible uses, prices, transportation costs, location, etc. /	0,3	EMEPA	2015 - 2020	Established and functioning electronic system for the products from treated sewage sludge for use in agriculture and land reclamation	Quantities of sold products from sewage sludge	Annual quantity of the product sold by the utilization of biodegradable waste increase over the previous year	Association of Water Operators / Bulgarian Water Association	EMEPA, Ministry of Environment and Water
		Implementation of the approved national project for sustainable management of obsolete pesticides temporarily stored in local warehouses	40	Bulgarian-Swiss programme	2018	Waste pesticides that are temporarily stored in local warehouses have been exported for disposal in authorized facilities abroad	Stages of the project	Successfully and timely completed project according to the contract signed	EMEPA	Municipalities
		Drafting rules on and calling for funding for construction / reconstruction of special facilities for the temporary storage of hazardous waste pesticides (municipal projects or groups of farmers).		Rural Development Programme 2014-2020	2015	Drafted rules and calls	Stages of drafting the rules and calls	Published call to beneficiaries	Ministry of Agriculture and Food	
		Implementation of approved projects for construction / reconstruction of facilities for temporary storage of hazardous waste pesticides	5,0	Rural Development Programme 2014-2020	2020	Environmental issues with the safe temporary storage of discarded pesticides is resolved	Stages of implementation of projects	All contracts for the projects have been completed and payments settled	Ministry of Agriculture and Food	Municipalities /groups of farmers
		Preparation and implementation of the project for disposal of POPs and obsolete pesticides found in concrete containers with broken integrity	7,0	State budget	2017	Pesticides disposed	Stages of implementation	Successfully and timely completed project according to the contract signed	Ministry of Environment and Water	Municipalities

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Implementation of project "Research and development of pilot models for environmentally sound collection and temporary storage of hazardous household waste" funded under the Bulgarian-Swiss Cooperation Programme	14,12	Bulgarian-Swiss Cooperation Programme/State budget	2019	Developed models for collection and built sites for collection and temporary storage	Stages of project implementation	Successfully and in-time implemented project	EMEPA	MOEW, Municipalities
		Implementation of the results and experience of the project "Research and development of pilot models for environmentally sound collection and temporarily storage of hazardous household waste" funded under the Bulgarian-Swiss Cooperation Program in implementing projects to improve the management of hazardous waste from households.	6	Municipal budgets, OPE 2014-2020	2017	Implemented projects on hazardous waste generated by households	Stages of projects' implementation	Municipalities have good practices for management of hazardous waste from households	Municipalities	MOEW
		Research of types and quantities of hazardous waste generated by households and industry, for which there are no treatment facilities built in the country, as well as of the need in building such facilities	1	Budget of Ministry of Environment and Water	2015-2016	Prepared study	Stages of the study	Needs assessment for the construction of facilities	Ministry of Environment and Water	
		Construction of hazardous waste treatment facilities, if necessary	30	Private investment	2018	Built facilities	Stages of implementation	Built facilities	Business	MOEW
		Consultations with stakeholders on the need for introduction of temporary bans and/or restrictions for shipments to Bulgaria for incineration or co-incineration with energy recovery		Budget of Ministry of Environment and Water	2020	Consultations held with stakeholders	Stages of the consultations	Agreements reached on the need to introduce temporary bans and/or restrictions for shipments to Bulgaria for incineration or co-incineration with energy recovery	Ministry of Environment and Water	Business

Objective 3: Increasing the capacity of waste management institutions to ensure a clean and safe environment



Objective 3 will be implemented through two programmes:

- A programme to improve the capacity of waste management institutions
- A programme to improve the quality of information that helps making informed management decisions

Objective 3: Increasing the capacity of waste management institutions to ensure a clean and safe environment

Programme to improve the capacity of waste management institutions



The measures proposed to improve the capacity of waste management institutions focus on the main components of this capacity. Measures proposed can be provisionally classified as investment measures and non-investment measures, and given the programme nature it contains mainly the second type measures.

The action plan includes an investment measure in the component "Material and information support" - providing enough vehicles to increase mobility and ability to perform scheduled and unannounced inspections at the municipal administrations and RIEWs.

As regards the other components of the administrative capacity, the following soft measures are envisaged:

- *Legal and programme support of waste management activities*

The analysis and evaluation of legislation and administrative capacity of "Waste Management" institutions found that the national legislation clearly distinguishes the duties and responsibilities of institutions of central and local waste management and that the national legal framework is built as an integral logical structure and architecture. In this sense, no changes are required to existing law.

Envisaged legislative changes refer to the Spatial Planning Act, Ordinance No. 2 of 2013, municipal programmes and regulations on waste management, etc.

- *Methodological support of waste management activities*

The measures envisaged aim at: unifying the approach to the management of individual institutions; preparing the methodology for determining the amount of the waste in accordance with the changes in Local Tax and Fees Act (LTFA).

- *Appointment of additional staff*

Additional staff or redistribution of duties is envisaged in municipal administrations and RIEWs that deal specifically with waste management, as well as in the Ministry of Health and regional health inspectorates to work in the field of waste management.

- *Continuous training of employees*

To maintain and increase the skills of employees who have responsibilities for waste management, a number of training activities are envisaged for municipal officials and employees of RIEWs, Executive Agency "Automobile Administration" Executive Agency "Railway Administration", Executive Agency "Maritime Administration", Customs Agency, Ministry of Interior, Ministry of Health, regional health inspectorates, State Agency for Metrology and Technical Surveillance, CA in connection with control functions that they perform according to the Waste Management Act (WMA).

- *Material and information support*

The main measures aim at improving the information base of waste management.

Approach to calculating the cost of implementing the measures

The costs of implementing measures to increase the capacity of institutions to implement waste management activities include only funds that are necessary for external expert support, i.e. costs beyond the budget of the institutions. These costs are valued in accordance with the following approach:

- The annual salary is calculated according to NSI data of the average salaries of employees on employment and civil contract in 2013 in the 'state government' category.
- Training costs are calculated on the assumption that the short-term training per employee costs the institution BGN 1000.
- The costs related to equipment include only those funds necessary to purchase the equipment, i.e. without overhead costs of operation.
- In determining the necessary funds to build the information system for gathering the necessary information through focused research, expert assessment was provided for institutions regarding the funds necessary for a project that would achieve similar objectives.

Action Plan to Programme to improve the capacity of waste management institutions

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing the capacity of waste management institutions to ensure a clean and safe environment	Improving institutional capacity for waste management									
		Preparation and adoption of amendments to the Spatial Planning Act		Budget of Ministry of Environment and Water - 2014		Draft amendments to the Spatial Planning Act approved by the Council of Ministers	Stage of the development and coordination of a draft law	Adopted by the National Assembly of the necessary amendments to the Spatial Planning Act, which was abolished over the discrepancy between the Spatial Planning Act and the Waste Management Act (WMA) on the requirement to provide the grounds of municipalities for construction waste infrastructure; requirements on spatial planning systems and equipment for the recovery of waste brought to the requirements on planning for industrial plants	Ministry of Environment and Water	Ministry of Regional Development and Public Works, Council of Ministers
		Development and adoption of legal constraint on funding from central sources of national projects of municipalities of landfills after 2020		Budget of Ministry of Environment and Water	2016	Eliminated subsidies harmful to the environment	Stage of the development and coordination of a draft law	Necessary amendments to the relevant law Adopted by the National Assembly	Ministry of Environment and Water	Council of Ministers
		Developing a methodology for the preparation of a plan, with necessary costs of activities and types of substrates other than the tax value of the property used to determine the amount of municipal waste fee		Budget of MF	2014	Approved by the Council of Ministers methodology on the approach for determining municipal waste fee based on the amount of waste	Stages of development and approval of the methodology by the Council of Ministers	Adopted and published by the Council of Ministers Decision on methodology for determination by municipalities of the waste fee under a methodology, more closely related to the amount of waste generated	Council of Ministers	National Association of Municipalities in the Republic of Bulgaria, Ministry of Finance, Ministry of Environment and Water
		Application by municipalities of the approach to the waste fee based as close as possible on the quantities of waste generated by households and legal entities on the basis of the methodology		Budgets of municipalities	2015, and annually thereafter	Municipal waste fee approved by the municipal councils based as close as possible on the quantities of waste disposed	Number of municipalities implemented the method used for determining the waste fee as close as possible on the quantities of waste	Households and legal entities have an economic incentive to reduce the amounts of disposed household waste	Municipalities	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		approved by the Council of Ministers					for disposal			
		Drafting amendments to the Local Tax and Fee Act (LTFA), through which Municipalities are obliged to enable entities, upon request, to pay waste fee based on the declared number of containers		Budget of the Council of Ministers - 2014	2014	Approved by the Council of Ministers a draft amending to the Local Tax and Fee Act (LTFA)	Stage of development and approval of the amending to the Local Tax and Fee Act (LTFA)	Necessary amendments to the law adopted by the National Assembly, obliging municipalities to provide possibilities to legal persons upon request to determine the amount of municipal waste fee based on the declared number of containers	Council of Ministers	National Association of Municipalities in Republic of Bulgaria, Ministry of Finance, Ministry of Environment and Water
		Application by municipalities of the reduced size of waste fee for households and legal entities participating in separate collection systems for recyclable waste and bio waste		Budget of municipalities - 2015, and annually thereafter		Approved by the municipal councils lower waste fee for households and legal entities participating in separate collection systems for recyclable waste and bio waste	Number of municipalities, where the municipal councils have approved a reduction of the waste fee for participating in systems for separate collection of recyclable waste and bio waste	Households and legal entities have an economic incentive for separate collection of household waste	Municipalities	Households, legal entities
		Development of municipal regulations on waste management in accordance with the requirements of the Waste Management Act		Budgets of municipalities	2014	Adopted by municipal councils municipal regulations on waste management, which are in conformity with the requirements of the Waste Management Act	Number of adopted municipal regulations for waste management by municipalities	All municipalities have adopted waste management regulations	Municipalities	
		Drafting and adoption of the Ordinance on the conditions and requirements for collection and treatment of waste in hospitals and healthcare facilities		Budget of Ministry of Health and MOEW	2014	Medical establishments have detailed and uniform rules for treatment of waste from health establishments	Stage of the development and coordination of the project draft ordinance	Adopted Ordinance on the conditions and requirements for the collection and treatment of waste in hospitals and healthcare facilities	Ministry of Health, Ministry of Environment and Water	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Drafting and approval of guidelines to municipalities for preparation of municipal / regional waste management and training of municipalities according to the developed guidelines	0,2	Budget of Ministry of Environment and Water	2014	Municipalities and RSWMAs have unified methodological tools for waste management planning at local and regional level	Stages of the procurement	Guidelines to municipalities and trainings approved by the Minister of Environment and Water	Ministry of Environment and Water	
		Development of municipal waste management programmes in accordance with the requirements of the Waste Management Act and the National Waste Management Plan (NWMP)		Budgets of municipalities	2014 -2015	Waste management municipal programmes adopted by municipal councils	Number of adopted municipal programmes for waste management by municipalities	All municipalities have adopted programmes for waste management	Municipalities	Academic community, NGOs, etc.
		Inclusion in Ordinance No. 2 of 2013 on the procedures and forms for providing information on waste management activities, and terms for keeping public records, of a requirement for Municipalities and RSWMAs for implementation of an information system for real-time reporting the amount of waste delivered in waste management facilities of municipalities		Budget of Ministry of Environment and Water	2016	Established regulatory requirement for the implementation of an information system in municipalities	Stages of development and adoption of draft amendments to Ordinance No. 2 of 2013	Amendments to Ordinance No. 2 of 2013 approved by the Council of Ministers	Ministry of Environment and Water	National Association of Municipalities in the Republic of Bulgaria
		Preparation of analyses and studies and technical assistance in the establishment of a financial facility (Fund) to finance investment projects of municipalities in the field of waste management.	0,8	Budget of Ministry of Environment and Water	2016	Carried out analyses and studies and provided technical assistance	Implementation stages of analysis and research	Proposed options for the creation of a financial facility (Fund) to finance projects of municipalities in the field of waste management	Ministry of Environment and Water	National Association of Municipalities in the Republic of Bulgaria

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Implementation of an information system for waste management in all municipalities and RWMA's resulting from the project of the Ministry of Environment and Water PHARE BG 2004/016-711.07.02 "Support for regional and municipal planning of waste management, implementation and enforcement of legal requirements in the field of waste management "	2,5	OP „Good Governance 2014-2020“/Budgets of municipalities	2016	Municipalities and RIEWs/EEA have access to reliable real-time information about input waste into their waste management facilities and installations	Number of municipalities and RWMA's that have implemented the information system	All municipalities have implemented and use the information system	Municipalities /National Association of Municipalities in Bulgaria/BAA MEE	RIEWs, Environment Executive Agency
		Implementation of the project for long-term training programme on waste management for all municipalities in Bulgaria in accordance with the waste hierarchy, separately for different groups of targeted municipalities, with emphasis on management of bio-waste, recyclable household and construction waste, separate collection, recycling and prevention, implementation of control activities	0,2	OP „Environment 2014”-2020	2015-2018	All project activities are implemented	Stages of the award and execution of contract	Representatives of the targeted groups of all municipalities have been trained and received certificates for successful completion of training	National Association of Municipalities in the Republic of Bulgaria	Municipalities
		Making regular annual training of RIEWs in connection with the implementation of waste control activities and waste permit issuing activities	0,20	Budget of Ministry of Environment and Water	2020	Improved capacity of RIEWs in the process of controlling activities and issuing of waste permits	The annual training plan for the system of the Ministry of Environment and Water includes waste management trainings for RIEWs	Planned annual workshops and seminars with RIEWs, organized by the Ministry of Environment and Water, are implemented and reported	Ministry of Environment and Water	RIEWs

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Training of officials of the Executive Agency "Automobile Administration", Executive Agency "Railway Administration", Executive Agency "Maritime Administration", Customs Agency and the Ministry of Interior in relation with the control of trans boundary movement of waste, including study of the experience of Member States with good practices	0,5	OP „Good Governance 2014-2020"/Budget of the relevant administrations	2015-2020	Improved capacity of the control authorities to supervise trans boundary shipments of waste	Stages of planning and preparation of training	Training modules were conducted	Ministry of Transport, Ministry of Finance, Ministry of Interior	Executive Agency "Automobile Administration", Executive Agency "Railway Administration", Executive Agency "Maritime Administration", Customs Agency and Ministry of Interior's management bodies
		Training of the Ministry of Health staff in relation to control activities in hazardous waste treatment in medical and health establishments, including study of the experience of Member States with good practices	0,4	OP „Good Governance 2014-2020"/ Budget of Ministry of Health	2016	Improved administrative capacity of the staff of the Ministry of Health in the considered area	Number of trained staff	All employees of the Ministry of Health, having control functions in hazardous waste treatment in health facilities, are trained	Ministry of Health (PHI)	Ministry of Health (Regional Health Inspectorates)
		Training of the Ministry of Interior staff in connection with monitoring compliance with the procedures for carrying out activities in ferrous and non-ferrous metal waste, including study of the experience of Member States with good practices	0,6	OP „Good Governance 2014-2020"/ Budget of Ministry of Interior	2015-2016	All project activities are implemented	Number of trained staff	All employees of the Ministry of Interior with functions related to the control of all activities ferrous and non-ferrous metal waste are trained	Ministry of Interior	Management bodies of Ministry of Interior, Ministry of Environment and Water
		Training of staff of the State Agency for Metrology and Technical Surveillance, the Commission for Consumer Protection and the Ministry of Health regarding the control on conformity of the products after use, formed widespread waste,	0,4	OP „Good Governance 2014-2020"/Budget of the relevant administrations	2015-2016	Improved capacity of staff of the State Agency for Metrology and Technical Surveillance, the Commission for Consumer Protection and the Ministry of Health in relation to the control of the conformity of	Stages of planning and implementation of training	The training modules were conducted	State Agency for Metrology and Technical Surveillance, Commission for Consumer Protection and Ministry of Health (RHI)	Regional divisions of the State Agency for Metrology and Technical Surveillance and Regional Health Inspectorates

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		including study of the experience of Member States with good practices				products after use, formed widespread waste, including study of the experience of Member States with good practices				
		Appointment of staff dealing specifically with waste management in municipal administrations, including control activities	8	Budgets of municipalities	2020	Increasing the number of employees in the Municipalities, who deal specifically with waste management	Number of appointed staff	The share of staff dealing specifically with waste management in the total number of employees in the municipal administrations has increased compared to the values in 2013	Municipalities	
		Appointment of additional staff at RIEWS, MH, and RHI dealing specifically with waste management	0,6	Budget of Ministry of Environment and Water and Ministry of Health	2020	Increasing the number of employees in RIEWS, MH and RHI who deal specifically with waste management	Number of appointed staff	The share of staff dealing specifically with waste management in the total number of employees in RIEWS, MH and RHI increased compared to the values of 2013	RIEWs MH RHI	
		Providing online access for RIEWS to EMEPA information on product fees paid by payers under ROP schemes		Budget of Ministry of Environment and Water	2015	All RIEWS have access to the information system of EMEPA for product fees paid by type of widespread waste	Decision of the Board of EMEPA to implement online access of RIEWS to the information systems of EMEPA for paid product fees for widespread waste; report to the Board of EMEPA on implemented decisions of EMEPA	Improved control of compliance of reporting entities under ROP schemes resulting from the Waste Management Act and the regulations for the management of widespread waste	Ministry of Environment and Water	Environment Executive Agency, RIEWs
		External audits of the waste recovery organizations along the entire route of the widespread waste from collection to recycling and recovery	3	Budget of Ministry of Environment and Water, funds of recovery organizations	Annually	Annually conducted external audits of all waste recovery organizations commissioned by Ministry of Environment and Water, along the entire route of the waste	Stages of the award and execution of contracts for procurement of external audits of waste recovery organizations for meeting the targets of recycling and other recovery of widespread waste	Control over the activity of waste recovery organizations to achieve recycling targets is improved, the risk of "fraud" in the application of the ROP schemes by recovery organizations is minimized; an important prerequisite is created for fair competition among recovery organizations	Ministry of Environment and Water	Waste recovery organizations

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Drafting guidelines and implementing unified "checklists" to conduct inspections on each of the ordinances under the Waste Management Act (WMA) and the related requirements (for the control bodies within the system of the Ministry of Environment and Water - RIEWS)		Ministry of Environment and Water budget	2015	For all regulations under the Waste Management Act there is an approved checklist for inspection by RIEWS	Number of regulations with developed "check checklists" to conduct inspections by RIEWS	All inspections in accordance with regulations under the Waste Management Act (WMA) are performed by RIEWS on the basis of a unified approach through the "inspection checklist"	Ministry of Environment and Water	RIEWs
		Development of a unified "checklist" to conduct inspections under the Waste Management Act (WMA) and the relevant regulations (for control bodies outside the system of the Ministry of Environment and Water)		Budget of respective control bodies	2015	For all regulations under the Waste Management Act there are developed checklists for conducting inspections, resp. by the Ministry of Interior, the State Agency for Metrology and Technical Surveillance, the Commission for Consumer Protection and the Ministry of Health	Number of regulations with developed "checklists" for inspection by the Ministry of Interior, the State Agency for Metrology and Technical Surveillance, the Commission for Consumer Protection and the Ministry of Health	All inspections in compliance with regulations under the Waste Management Act (WMA), are carried out by the control authorities under a unified approach through a "checklist"	Ministry of Interior, State Agency for Metrology and Technical Surveillance, Commission for Consumer Protection and Ministry of Health	Regional divisions of competent control bodies

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Methodological support to municipalities through the development of guidelines with recommendations by the Ministry of Environment and Water to improve their inspection activity, incl.;; to create and maintain a register of sites that are subject to waste management control by municipalities; to prepare an annual plan and an annual report on the implementation of control waste management activities; to establish a register of the results of checks carried out on waste management; drafting and publishing on the website of municipalities of a 'green' hotline and e-mail address to which citizens can submit information about violations of waste regulations and other environmental violations		Budget of Ministry of Environment and Water	2015	Guidelines approved by the Ministry of Environment and Water to municipalities containing recommendations to improve their waste control activities	Stages of the development and approval of guidelines	The guidelines are published on the web site of the Ministry of Environment and Water	Ministry of Environment and Water	
		Creation and maintenance by municipalities of electronic registers of the sites subject to waste management control		Budget of municipalities	2015	Created registries of sites subject to waste management control by municipalities	Number of organizational rules of municipalities, containing the statutory obligation to establish and maintain a register of sites to be inspected	All municipalities have information about the range of sites that are subject to control by municipalities under the waste management legislation	Municipalities	
		Preparation of annual plans and annual reports for waste management control by municipalities		Budget of municipalities	2015-2020	Approved annual plans and annual reports on control under the waste management regulations	Number of approved municipal annual plans and annual reports on control under the waste management regulations	All municipalities implement waste management control activities on the basis of a detailed plan and report the fulfillment of annual targets for control activities on the basis of the annual plan	Municipalities	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Creating municipal electronic register / book of the results of inspections on waste management, the recommendations, fines and penalties, and the results of implemented recommendations made by municipal waste management control authorities		Budget of municipalities	2015	Municipalities created electronic registers / books of the results of waste management control	Number of created registers / books with results from inspections	All municipalities have created conditions for monitoring the results of control activities carried out under the waste management legislation	Municipalities	
		Provision of the necessary technical equipment for municipal administrations to enable employees responsible for waste to carry out inspections	1,5	Budgets of municipalities	2016	Raising efficiency and ability to perform scheduled and unscheduled inspections	Number of provided equipment	The number of provided equipment is higher than in 2013	Municipalities	
		Continued implementation of enhanced control on all municipalities to pay in full the charges due to disposal and additional charges in case of absence of sites for delivery of separately collected household waste		Ministry of Environment and Water budget	annually	A report to the Ministry of Environment and Water on the results of the control carried out by RIEWS	Number of thematic inspections conducted; Number of inspected municipalities;	Performed thematic inspections in all municipalities	RIEWs	Ministry of Environment and Water
		Purchase of modern laboratory equipment for analysis of POPs and other hazardous chemicals in plastic and other waste	1,5	Budget of Ministry of Environment and Water	2016	Purchased modern laboratory equipment for analysis of POPs and other hazardous chemicals in plastic and other waste	Stages of the public procurement; number of submitted bids	Created material conditions for the analysis of POPs and other hazardous chemicals in plastic and other waste	Ministry of Environment and Water	Environment Executive Agency

Objective 3: Increasing the capacity of waste management institutions to ensure a clean and safe environment

Programme to improve the quality of information that helps make informed management decisions



For effective waste management it is necessary to build an integrated web-based information system on a modular basis, which includes the full range of information necessary for the preparation of analyzes and forecasts and to track the progress of the National Waste Management Plan (NWMP) 2014-2020 and the Programme for waste prevention (PWP). This system will be maintained by the Executive Environment Agency (EEA) and will be opened in accordance with Article 48, para.7 of the WMA. It takes several steps to build the system:

- Integrating information systems of all institutions that maintain data on waste management –Ministry of Environment and Water, Executive Environment Agency (EEA), National Statistical Institute (NSI), RIEWs, municipalities, etc., while removing any confidentiality of information in the NSI.
- Creation of the information system architecture
- Systematization of available data and their inclusion in the information system
- Collection of data / information to be included in the information system, which is currently not available - necessary data are described in detail in *Section VI. Analysis of information support*.
- Collecting information on waste treatment facilities (by codes), which shall be most complete in terms of existing opportunities for waste recovery, and which is updated frequently (e.g., once a month).

The majority of measures proposed in the programme are grouped around the aforementioned steps. Measures combine non-investment and investment component, as the purchase of equipment (servers, computers, etc.) is not displayed separately, but is included in the respective measure.

Measures are horizontal and lead to meeting of all targets of the National Waste Management Plan (NWMP) 2014-2020.

Evaluation of measures is carried out on the basis of completed real projects with a similar focus and scope.

Action Plan to Programme to improve the quality of information that helps make informed management decisions

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Increasing the capacity of waste management institutions	Improving the quality of information supporting the making of informed management decisions									
		Preparation of the architecture of a web-based integrated national information system that combines the information systems of institutions involved in waste management	0,1	Budget of Ministry of Environment and Water	2015	Developed tender documentation for the award of development and implementation of a web-based integrated information system	Stages of the procurement and execution of contract	Completed architecture of a single web-based integrated information system for waste	Environment Executive Agency	National Statistical Institute, Ministry of Environment and Water
		Inventory and systematization of information available on the web-based integrated information system	0,2	State budget/budget of Environment Executive Agency	2017	Inventory is made of all the information available in the information system and indicators are identified for which it is necessary to collect additional information	Identified number of indicators related to waste management, for which it is necessary to collect additional information	Identified are all indicators related to waste management, for which it is necessary to collect additional information	Environment Executive Agency	
		Collecting information on indicators for waste management, which is not available on the web-based integrated information system (indicators, which are not information secured from the institutions related to waste management, but the need for collection of such information is also identified)	2	State budget/budget of Environment Executive Agency	2015	Studies have been prepared and information is collected that is not available in the integrated information system, but is necessary for efficient waste management in Bulgaria	Number of studies; Number of indicators for which information is gathered	Established information system that contains all the information necessary for making right management decisions	Ministry of Environment and Water	RIEWs, National Statistical Institute, Environment Executive Agency, Municipalities

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Development and implementation of a web-based integrated information system that combines the information systems of the institutions involved in the waste management	2,0	State budget/budget of Environment Executive Agency	2017	Developed and approved tender documents for the contract of development and implementation of a web-based integrated information system for waste	Stages of the procurement and execution of contract	Created a web-based integrated information system that contains all the information necessary for decision making in the field of waste management	Environment Executive Agency	National Statistical Institute, all institutions collecting data on waste
		Training in the use of the Internet-based integrated information system as well as the provision of information electronically	0,3	State budget/budget of Environment Executive Agency	2017	Conducted trainings	Number of trainings; Number of trained staff	Responsible officers are trained to use the integrated information system and to provide information electronically	Environment Executive Agency	Ministry of Environment and Water, RIEWs, Municipalities, Ministry of Health, RHI
		Appointment of additional staff in the EEA to deal with maintenance of the web-based integrated information system and update of the necessary information	0,2	State budget/budget of Environment Executive Agency	2017	Appointed three officials who deal with maintenance of the information system	Number of appointed officials	Available sufficient staff to maintain the integrated information system	Environment Executive Agency	
		Abolishment of confidentiality on NSI data related to the sector "Waste Management" in municipalities		Budget of Council of Ministers	2015	Abolished confidentiality on NSI data related to the sector "Waste Management" in municipalities	Number of statistical indicators related to waste management, for which publicly accessible information is available at all levels of disaggregation	Publicly available information on all indicators related to waste management at all levels of disaggregation	Council of Ministers	Ministry of Environment and Water, National Statistical Institute

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Improving information services of NSI to ensure the provision of information on waste management at national, regional and municipal level.		Budget of the National Statistical Institute	2020	Improved information services by National Statistical Institute	Annually on the NSI website are published for free indicators on waste management at national, regional and municipal level, the number of which is higher compared to the previous year	Publicly available information on all indicators related to waste management at all levels of disaggregation	National Statistical Institute	Ministry of Environment and Water
		Development and implementation of a web-based information system for the import and export of waste outside the scope of waste under the Basel Convention, as part of a future integrated system for waste	0,2	Budget of Ministry of Environment and Water	2015	Ministry of Environment and Water has information on imports and exports of waste to support decision making	Stages of the procurement and execution of contract	Created a web-based information system for the import and export of waste outside the scope of waste under the Basel Convention, as part of a future integrated waste information system	Ministry of Environment and Water	Environment Executive Agency
		Development and implementation of an information system for municipal waste facilities and installations	0,2	Budget of Environment Executive Agency	2015	Ministry of Environment, RSWMAs and Municipalities have information on municipal waste facilities and installations to support making timely management decisions	Stages of the procurement and execution of contract	Created a web-based information system on municipal waste facilities and installations as part of a future integrated system for waste	Environment Executive Agency	Ministry of Environment and Water
		Development and implementation of an information system for the results of the control activities of all institutions with powers to control under the waste legislation as part of a future integrated system for waste	0,1	Budget of Environment Executive Agency	2015	Ministry of Environment and Water as a coordinating body for waste policy and all authorities competent to control waste have information on the results of control activities and for decision making	Stages of the procurement and execution of contract	Established and functioning information system for the results of control activity on waste	Environment Executive Agency	Ministry of Environment and Water Ministry of Health

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Performing a survey on indicators for final impact on the consumption of resources and decrease of environmental impact from implementing WP policies which are appropriate to be implemented	0,1	Budget of Environment Executive Agency	2017	The survey is approved by the contracting authority	Number of indicators identified in the survey specifically for the objectives of WP.	Indicators applied in reports, analyses and forecasts	Environment Executive Agency	National Statistical Institute
		Development and implementation of a system for collecting information to track progress in implementing the measures of current WPP, including supplementing the legislation, if necessary	0,07	Budget of Environment Executive Agency	2015	Developed system for collecting information, adopted regulatory changes, if any need is identified	Number of WPP measures for which information is collected for tracking progress on implementation	By 2020 for all measures of WPP information is available for reporting progress on implementation	Environment Executive Agency	Ministry of Environment and Water
		Development and implementation by all municipalities and RWMA of a web-based information system for reporting on the implementation of targets for recovery and recycling of household waste in accordance with the Ordinance on separate collection of bio-waste as part of the future integrated system for waste	1,5	State budget	2015	Developed and implemented by all municipalities and RWMA of a web-based information system for reporting on the implementation of targets for recovery and recycling of household waste in accordance with the Ordinance on separate collection of bio-waste	Stages of the procurement and execution of contract	Developed and implemented by all municipalities and RWMA of a web-based information system for reporting on the implementation of targets for recovery and recycling of household waste in accordance with the Ordinance on separate collection of bio-waste	Environment Executive Agency	
		Training of municipalities regarding the use of a web-based information system for reporting on the implementation of municipal waste objectives, and the provision of information electronically	0,2	State budget/Environment Executive Agency budget	2015	Conducted trainings	Number of trainings; Number of trained staff	Responsible officials in municipalities are trained to use the integrated information system and provide information electronically	Environment Executive Agency	Municipalities

Objective 4: Making the public as a key factor in applying the waste management hierarchy

Programme to improve awareness and participation of the population and business in waste management activities



Measures included in the programme to raise the awareness and motivation of various social groups and business organizations are critical for improving performance in waste management. This programme provides for the extension of outreach activities to the public and business activities traditionally underestimated by the competent institutions.

An important prerequisite for achieving the target are some of the measures taken so far by conducting an annual national campaign to clean waste through the participation of volunteers from across the country, the annual municipal competition "For clean environment", regular information campaigns by recovery organizations.

The proposed programme of measures aims to help subordination between activities, so as to extract synergies and improve the overall efficiency of them. Therefore, some of the measures in the programme are aimed at ensuring the sustainability and complementarity not only at national but also at the municipal level. Therefore, measures such as:

- developing and implementing a long-term national communication strategy for waste management
- amending the legislation, which imposes an obligation on municipalities to conduct regular awareness campaigns and programmes include municipal waste management measures to inform the public and business

should be seen as interrelated and designed to maximize the effects of efforts at national and local level.

Another group of measures such as:

- nationally representative surveys to study the opinions and attitudes of citizens
- implementation of public consultation at the local level in the development of municipal waste management, etc.,

aim at reporting the views of people and businesses and their direct involvement in the process of decision making.

Besides measures aimed directly at the two main areas - informing and involving the public in decision-making in the field of waste management, the programme includes a number of measures that have a specific purpose and result from the open gaps in the waste management and the need to overcome them by conducting thematic information and volunteer campaigns, information from NSI on household waste by municipalities, etc.

The Programme to improve awareness and participation of the population and business in waste management activities is crucial for the overall improvement of waste management practice and support to all other programmes within the National Waste Management Plan (NWMP) 2014-2020, by raising the awareness and use of the subjective factor for improving the waste management performance.

Meanwhile, a number of measures included in other programmes under the National Waste Management Plan (NWMP) 2014-2020, also contribute to the objective of making the public key in applying the waste management hierarchy. Measures such as the publication on the municipality's website of information about the location, type and conditions of transfer of separately collected waste from households and legal entities, the conduct of waste prevention training programmes and waste effective use as a resource for businesses, creating web platforms for exchange of good business practices, etc. are measures that could safely be included in the programme "Improving the awareness and participation of the population and business on waste management activities," but for better consistency of individual activities and their close reverse relation between the achievement of set objectives they are included in the programmes of the National Waste Management Plan (NWMP) 2014 – 2020.

Action Plan to Programme to improve awareness and participation of the population and business in waste management activities

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
Involving the public as a key factor in applying the waste management hierarchy	Improving awareness and participation of the population and business in waste management activities						Annual increase in the number of households participating in separate collection of waste; annual increase in the number of commercial sites, factories and administrative buildings in settlements with a population of over 5,000 inhabitants who participated in separate collection	In 2020 over 70% of households living in the territories have introduced systems for separate collection of waste involved in these systems; 90% of the commercial sites, factories and administrative buildings in settlements with a population of over 5,000 residents who participated in separate collection		
		Development of a National Communication Strategy for the public on waste management with a five-year action plan	0,3	OP „Good Governance 2014-2020”	2015	Developed National communication strategy	Stages of the procurement and execution of contract	There are adequate measures to raise awareness of the population and businesses on waste management	Ministry of Environment and Water	
		Implementation of the measures of the National Communication Strategy for Waste Management	2,5	OP „Good Governance 2014-2020”	2020	Increased awareness of the population and businesses on waste management	Measures are implemented in accordance with the Action Plan to the Strategy	Making the public a key factor in waste management	Ministry of Environment and Water	Municipalities; NGOs; media
		Changes in the regulations and the introduction of an obligation to municipalities to carry out information campaigns related to waste management.		Budget of Ministry of Environment and Water	2014	Draft amending the Waste Management Act (WMA) with appropriate supplements approved by the Council of Ministers	Stages of development and approval of the amendment to the Waste Management Act (WMA) by the Council of Ministers	Adopted by the National Assembly supplements to the WMA regarding obligation of municipalities to carry out information campaigns on waste management	Ministry of Environment and Water	National Association of Municipalities in the Republic of Bulgaria, Ministry of Finance

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Inclusion of the costs of information campaigns as a mandatory element of costs forming waste fee in the Local Tax and Fees Act /along with the procedure for law amendment, to launch a new approach for determining the amount of municipal waste fee/		Budget of Ministry of Environment and Water	2014	Draft amending the relevant changes to the LTFA approved by the Council of Ministers	Stages of development and approval of amendment law to the LTFA by the Council of Ministers	Adopted by the National Assembly the necessary amendments to the LTFA to include the expenses of municipalities for information campaigns on waste management in the formation of municipal waste fee	Ministry of Environment and Water	National Association of Municipalities in the Republic of Bulgaria, Ministry of Finance
		Changes in the regulations whereby requiring the publication of detailed cost estimate of municipalities, on the basis of which the municipal waste fee is determined, by cost elements and types of activities, as well as the statement of expenditure of municipal waste management in the previous year compared to the approved budget		Budget of Ministry of Environment and Water	2014	Draft amending the Waste Management Act (WMA) with appropriate supplements approved by the Council of Ministers	Stages of development and approval of the amendment of the Waste Management Act (WMA) by the Council of Ministers	Adopted by the National Assembly the supplements to the WMA regarding the obligation of municipalities to publish detailed accounts plan for municipal waste fee and the related statements of actual execution and plan accounts	Ministry of Environment and Water	National Association of Municipalities in the Republic of Bulgaria, Ministry of Finance
		Publication in the NSI statistical yearbooks of information on household waste amounts by municipalities		NSI budget	2015	Citizens and businesses have access to information on municipal waste in their municipality and comparative information for other municipalities	Number of municipalities, for which data on municipal waste by municipalities is published on the web-site of NSI	NSI has published information on municipal waste for all municipalities	National Statistical Institute	Municipalities
		Municipalities conduct consultations with the public and other stakeholders in the development of municipal waste management programmes		Budget of municipalities	2014	All stakeholders are involved in the development of municipal waste management programmes	Number of municipalities that held public consultations in the development of municipal waste management programmes	All municipalities have conducted public consultations in the development of municipal waste management	Municipalities	Citizens and other stakeholders

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Municipalities conduct information campaigns for separate collection and improved management of municipal waste as a resource in accordance with the measures provided for in the municipal programmes for waste management	25	Budget of municipalities	Annually until 2020	Citizens and businesses are aware of the procedure, methods and benefits of separate collection and recovery of household waste	Number of municipalities that held annually campaigns for separate collection and improving waste management	All municipalities hold annually campaigns for separate collection and improving waste management	Municipalities	
		Continuing and expanding the participation of NGOs, schools, universities, municipalities and other central and regional institutions and business organizations in the European Week for Waste Reduction	2	EMEPA	annually until 2020	Reduction of household and other waste	Number of organizations involved every year in the European Week for Waste Reduction	Increased number of organizations participating in the annual campaign European Week for Waste Reduction compared to previous years	Ministry of Environment and Water	BAAMEE
		Continuation of the national campaign of the Ministry of Environment and Water "For clean environment"	20	EMEPA	2020	Activities implemented under the National Campaign "For clean environment" throughout the country	Number of completed projects within the campaign	Increased environmental awareness of the population and businesses and introduction of modern advances in waste management	EMEPA	Municipalities
		Annually conducting a nationally representative poll of opinions, attitudes, enhancing knowledge and expanding citizen participation in systems for separate collection as part of a long-term communications strategy for outreach to the public on waste management	0,35	According to the budget of the communication strategy	Annually until 2020	Ministry of Environment and Water has additional information to support management decisions, consistent with the views of citizens	Number of nationally representative surveys	Each year a planning period of polls is held	Ministry of Environment and Water	

Strategic Objective	Operational Objective	Activities (measures)	Budget (million BGN)	Sources of funding	Term of Implementation (month and year)	Expected Outcomes	Performance Indicators		Responsible Institutions	
							Current	Targeted	Lead	Partner
		Carrying out information campaigns to the public by recovery organizations of widespread waste under their approved programmes		Funds of recovery organizations	2020	Recovery organizations perform their approved programmes, including in the part to inform the public	Number of campaigns conducted by recovery organizations of widespread waste	Increased public awareness on the management of the widespread waste reported at polls	Recovery organizations	Ministry of Environment and Water
		Inclusion in the curriculum in kindergartens and schools of modules on waste management	0,2	Budget of Ministry of Education and Science	2020	Developed training programmes on waste management adapted for young children and students	Number of kindergartens and schools that have training in waste management / Number of children who have undergone training in waste management	Increased awareness of children and students on waste management reported in surveys	Ministry of Education and Science	Ministry of Environment and Water
		Publication of all municipalities of a 'green' hotline and e-mail address, where citizens can report violations of regulatory requirements on waste and proposals for improvement of waste policy		Budget of municipalities	2015	Citizens and other stakeholders have accessible tool for signals and suggestions	Number of municipalities that have implemented the measure	All municipalities have implemented the measure	Municipalities	
		Implementation of projects related to the development of methodological and training materials, information portals on the European and national policies and programmes for the efficient use of resources, including approaches and best practices in their respective branches	2	OP "Good Governance 2014-2020"	2018	Approved and completed projects	Number of awareness campaigns; number of produced information materials; number of trainings; number of companies and people trained; number of developed web portals; number of produced manuals.	Increased awareness of efficient use of resources, including approaches and best practices and representatives of at least five industry / industries / reported in surveys	Branch organizations; National Association of Municipalities in the Republic of Bulgaria	Managing Authority of OP „Good Governance 2014-2020”

V. Coordination with other plans and programmes



The National Waste Management Plan (NWMP) is part of the overall national planning system, which is why in this section it represents the relationship between the National Waste Management Plan (NWMP) and other national programming documents. In developing the objectives of the National Waste Management Plan (NWMP), it has considered the analyses and forecasts of nine national plans from which directly or indirectly the measures set out in it are arising. In turn, the performance of the National Waste Management Plan (NWMP) will contribute, to a lesser or greater extent, to achieve the objectives of the national planning documents referred to below in this section.

National Development Programme: Bulgaria 2020

The National Development Programme: Bulgaria 2020 is the main strategic and programming documents, which specifies the objectives of development policies of the country until 2020 and is the basis for the programming of strategic documents related to the implementation of national policies. The document helps to optimize the programming Bulgaria 2020, by linking the national priorities of the Republic of Bulgaria to the EU objectives in the context of the Europe 2020 Strategy.

The programme identifies eight national priorities, the third of which is:

"Achieving sustainable integrated regional development and use of local potential". Its main sub-priority is "Creating conditions for protecting and improving the environment in the regions, to adapt to climate changes and for achieving sustainable and efficient use of natural resources."

It is provisioned that the objectives under this sub-priority be achieved by fulfilling a number of actions, including actions to improve the efficient use of resources by preventing waste, optimizing waste collection and implementing advanced technologies for separate collection of biodegradable waste composting, recycling and environmentally sound disposal. Enclosed are specific targets for the recycling of at least 50% of municipal waste, 70% of construction waste, as well as the reduction and recycling of municipal and construction waste and reduced biodegradable municipal waste to 35% in 2020 compared to the level of 1995.

The expected outcomes of the implementation of measures are: growth of recovered and recycled waste, increased share of population served by systems for separate collection and transportation of waste; growth of composted biodegradable waste; growth of recovered and recycled and waste.

The National Waste Management Plan (NWMP) 2014-2020 is bound to another priority of the National Development Programme: Bulgaria 2020 – namely Priority 7 "Energy security and increasing resource efficiency", sub-priority 7.5. "Increasing the efficiency of resource use" areas of impact "Introduction of low-carbon, energy efficient and waste-free technologies" and "Recovery and recycling of large amounts of waste".

The implementation of programmed measures under the National Waste Management Plan (NWMP) derives from and contributes directly to the objectives and priorities of the National Development Programme: Bulgaria 2020, and in particular for achieving sustainable integrated regional development and use of local potential.

Europe 2020: National Reform Programme, 2013 update

The 2013 update of the National Reform Programme of the Republic of Bulgaria, which was adopted nationally in April 2013 within the European Semester 2013, addresses the

recommendations in the European Council conclusions on the Annual Growth Survey for 2013 and the Report on the early warning mechanism for 2013. The paper acknowledges the progress of the national targets set in 2011 in view of the common European objectives in the strategic paper "Europe 2020". In connection with the national Objective 3 of the package "Climate - Energy", it states that Bulgaria continues its efforts to overcome the challenges, in particular the increase in greenhouse gas emissions from sectors outside the EU ETS emissions do not exceed 20% of the levels compared to 2005. As one of those sectors emitting greenhouse gases is mentioned to be the "waste" sector, short-term measures are identified - developing National Waste Management Plan (NWMP) by 2020, adopting two ordinances on bio waste and commissioning of over 30 facilities for separation of recyclable waste and composting facilities aimed at reducing biodegradable waste. The National Waste Management Plan (NWMP) and the two regulations are already in place, and the implementation of facilities and plants is in an advanced stage.

The National Reform Programme of the Republic of Bulgaria has outlined the areas of intervention of the ESIS in Bulgaria for the 2014-2020 programming period, which "form as the intersection between European priorities set out in the National Reform Programme implementing the strategy "Europe 2020" for inclusive, smart and sustainable growth and the priorities in the National Development Programme: Bulgaria 2020". Based on a thorough analysis of differences, development needs and growth potential, it has formulated national funding priorities, including the "waste" sector.

The Council of the EU in June 2013 made recommendations on the National Reform Programme of Bulgaria in 2013, recommending that Bulgaria take a series of actions, one of which is: "To strengthen the independence of national regulatory authorities and administrative capacity especially in energy and transport, as well as in the management of water and waste."

In developing the National Waste Management Plan (NWMP), it has considered the projections of the National Reform Programme 2013 and the recommendations of the Council of the EU in this June 2013 paper.

National Regional Development Strategy 2012-2022

The National Regional Development Strategy (NRDS) for the period 2012-2022 was the main document which sets out the strategic framework for public policy to achieve balanced and sustainable development of the regions nationwide and to address the intra-and inter-regional differences / inequalities in the context of European policy convergence and to achieve a smart, sustainable and inclusive growth.

The strategy identifies goals, priorities and specific objectives contributing to the achievement of the strategy "Europe 2020", while taking into account the guidelines of the "Territorial Agenda 2020" and the National Development Programme "Bulgaria 2020". It sets out the national policy for sustainable, balanced development of the six regions of level 2 and provides a guide to the balanced development of smaller territorial units - districts and municipalities.

Within the strategic priority of the document: "Development of infrastructure for environmental protection", a specific purpose is defined for "efficient use of resources by optimizing waste collection and implementation of advanced technologies for the separate collection, biodegradable waste composting, recycling and eco-friendly disposal and performance of the Roadmap for a Resource Efficient Europe in 2020."

The aim is to limit their harmful effects on human health and the environment and also to move towards re-use, which will reduce the use of primary natural resources. The Strategy provides for household and construction waste to be separated, recycled and re-used by building composting facilities for biodegradable waste, construction of facilities for separation, separation of waste and phasing out of old landfills that do not meet modern technical standards.

The strategy emphasizes that better waste management will help reduce greenhouse gas emissions in the regions.

The National Waste Management Plan takes into account the analyzes and the priorities of the National Regional Development Strategy, analyzing the specific needs and providing for horizontal non-investment measures applicable to the whole country, so specific investment measures will improve the waste management hierarchy for the various regions of the country, which contributes to their balanced and sustainable development.

National strategic plan for phasing the amount of biodegradable waste to landfills, 2010-2020

The plan is designed to improve the environment as a result of reduced landfilling and the production of biodegradable municipal waste which is nearly two-thirds of the generated waste and mostly by limiting greenhouse gas emissions and improving soil quality in the country. In implementation of the EU Directive on landfills, measures envisaged in the plan provide the quantities of biodegradable waste to be reduced to 50% of landfilled waste in the country in 2013 and 35% of landfilled waste in 2020. Analyzes of the National Waste Management Plan (NWMP) find that part of its National Strategic Plan for phasing the amount of biodegradable waste to landfill 2010-2020 has already been met, including the commissioning of the first treatment plant for green and food waste generated in the production of electricity and the completion of over 20 projects for reclamation of old municipal landfills, The implementation of 17 regional facilities for utilization of biodegradable municipal waste and over 30 projects for reclamation of old landfills; it has implemented an extensive training programme to municipalities for new regulatory requirements for bio-waste; it has developed and adopted a regulation on bio waste, which sets out targets for the recovery and quality requirements of compost and other products produced from bio waste; it has created a legal basis for ensuring the quality of compost, including establishing a national organization to ensure the quality of compost; it has introduced deductions for disposal, as well as provisions for closure and reclamation of landfills, etc.

The National Waste Management Plan (NWMP) includes detailed measures that build, support and continue the implementation of the national strategic plan for biodegradable waste.

National strategic plan for waste management from construction and demolition of the territory of Bulgaria for the period 2011-2020

For the first time ever this plan analyzes in detail the status of management of waste from construction and demolition in the country. Based on pooled data from different sources and their analysis, expert assumptions and forecasts are made to propose legislative changes and measures for the development of infrastructure to manage this flow of industrial waste, envisaging a 10-year period (2011 and 2020). The main objective is to contribute to sustainable development of the Republic of Bulgaria through recycling and recovery of 70%

of construction waste by 2020, to reduce the environmental impacts caused by their generation, while improving the efficiency of resource use, increasing responsibilities, and encouraging investment in waste management. The strategic plan was developed in accordance with the requirements of the EU Framework Directive 2008/98/EC on waste and the EU Thematic Strategy on waste prevention and recycling. The plan provides for legislative, administrative, technical and investment measures for the gradual achievement of the strategic goal. Some of these measures have already been implemented - laws and special regulation are adopted for treatment of construction and demolition waste, regulating responsibilities of all stakeholders - municipal and state authorities, builders, designers and consultants in construction; stepwise targets for recovery and recycling; requirements for use of recycled building materials in various types of construction; control; requirements to contracting of public works and to information and control. Under construction are several regional and municipal treatment facilities for construction waste with funding under OP "Environment" 2007 - 2013.

The National Waste Management Plan (NWMP) includes detailed measures that build, support and continue the implementation of the strategic plan for the management of construction waste by 2020. The main measures are aimed at training programmes for all stakeholders in the process, information and investment measures; measures to develop technical guidelines and standards, etc.

National Plan for the management of sewage sludge by 2020 /draft/

Sewage sludge is waste whose quantity in Bulgaria will increase due to the construction of new sewers and waste water treatment plants to improve the quality of river and sea water in the country. In this regard, under the coordination of the Ministry of Environment and Water it has drafted a national plan for the management of the sludge by 2020, which is expected to be approved by the Minister of Environment and Water by the middle of 2014. The plan proposes a long-term approach to managing this waste stream in Bulgaria. In particular, the plan predicted the amounts of sludge that are expected to be generated as a result of waste water treatment by 2020. It outlines the possibilities of their utilization and the 2020 objective for this waste stream to be 100% recovered in an environmentally friendly way, rather than predominantly landfilled.

The plan identifies the shortcomings and obstacles that need to be removed and overcome in order to realize the purpose. It elaborates a practicable and affordable plan for the disposal of sewage sludge in the country in line with the European standards. The main measures are aimed at overcoming barriers to utilization of products of treated sewage sludge, including training of operators of waste water treatment plants, farmers and other users, quality assurance of products and processes, dissemination of information to support realization of products of sludge. It has already provided guidance to help operators of the WWTP. Most of the measures are integrated into the National Waste Management Plan (NWMP) in order to achieve approval at a higher level - by the Council of Minister, not only by the Ministry of Environment and Water (MEW), on the other hand - in order to combine them with other similar measures under the National Waste Management Plan (NWMP), such as common training programmes for farmers and manufacturers to use the products of treated sewage sludge and bio waste for soil improvement; a study on taking up quality assurance duties as regards sludge used in agriculture from the National Organization for Quality Assurance in Compost, business financing projects for accreditation by environmental management systems, etc.

Third National Plan on Climate Change 2013 - 2020

The Third Action Plan on Climate Change lays the foundations of the transition to low-carbon and resource-efficient development of our country. Although in absolute terms greenhouse gas emissions from the waste sector have decreased by almost 28% compared to the base year 1988, the "Waste" sector generates greenhouse gas emissions in the country with a share of around 6-8% in recent years. Greenhouse gas emissions from municipal solid waste is about 77% of the total greenhouse gases emitted by "Waste" Sector and about 22% from the waste water treatment.

Analyses show that the extraction and utilization of landfill gas is not practiced in our country and all methane from landfills is emitted into the ambient air, or (in rare cases) is incinerated. Also, the plan stated that waste water treatment in large WWTPs (serving more than PE 50,000) is technologically feasible and it is economically viable to produce heat and electricity from biogas released in the process of stabilizing sludge in methane tanks to cover the main part energy needs of WWTP. So far, however, there are only 4 stations in the country.

Therefore, the main measures for the "Waste" sector in the Third National Plan on Climate Change aim at limiting the disposal of municipal waste, suspending operations of landfills not complying and closure of phased landfills, capturing and burning biogas from sewage sludge."

There is an obvious synergy between the National Waste Management Plan (NWMP) and the Third National Plan on Climate Change, as measures relating to biodegradable waste and waste sludge from waste water treatment plants contribute to the achievement of the strategic objectives of both plans. Therefore, these measures have a double effect and should be implemented with priority.

Updated National Action Plan on the management of persistent organic pollutants (POPs) in the Republic of Bulgaria 2012-2020

The strategic objective of this plan is to reduce the risk to human health and the environment from persistent organic pollutants. The plan includes an assessment of the current standing, including the availability, marketing, production and imports, management, monitoring, information, etc. A part of obsolete POPs-pesticides that are essentially hazardous waste are subject to detailed analysis and measures in the plan. Namely obsolete pesticides are the intersection of the two plans that provide identical measures to solve the problem and in particular exports abroad for final disposal.

VI. System for monitoring the implementation of the National Waste Management Plan (NWMP) 2014-2020



For each strategic document it is of great importance not only to be developed in keeping with the methodology of strategic planning, but also to be implemented in accordance with the pre-set goals, deadlines and resources. Therefore, monitoring and evaluation of the programmed documents are key stages of the overall planning process in order to take timely action to address the problems that arise in the implementation of measures and to achieve the programme objectives, and if necessary - to take action to update it.

The need to implement a system for monitoring and evaluation of the National Waste Management Plan (NWMP) is provided as a requirement in the Waste Management Act (WMA). According to Article 49, paragraph 4, sub-paragraph 20 of the Act, the National Waste Management Plan (NWMP) should contain: *a system for reporting and performance of monitoring*, and according to sub-paragraph 21 - *a system for evaluating the results and update the plan*. The National Waste Prevention Programme is part of the National Waste Management Plan (NWMP), so reporting and monitoring, evaluation of the results of the programme and updating the programme measures, if necessary, are carried out simultaneously with a similar system for other programmes under the National Waste Management Plan (NWMP).

The reporting and monitoring system is a process of observation /monitoring/ and collection and analysis of information related to the implementation of programmed measures. It is essential to ensure that the information is collected in an organized and planned manner and at regular intervals. Controlling for the implementation of the programme measures and achieving the program's objectives means to have certain authorities to be reported the implementation and which have competence to approve corrective action as necessary to update the programme.

The system for evaluation of a program, and update it if necessary, includes actions to provide the necessary information for interim and final evaluation of the rate of fulfillment of the objectives of a program, and a mechanism to analyze the causes of problems implementation and update the programme as needed. The distinction of the two systems is rather arbitrary, since they apply concurrence and coordinated.

The reporting and monitoring system for implementation of the National Waste Management Plan (NWMP) is a system of ongoing monitoring (monitoring) by collecting information on the implementation of individual measures as set out in the programmes under the National Waste Management Plan (NWMP) 2014-2020 and reporting the extent of their implementation. For each of the measures in the various programmes it mentions expected results and performance, as well as indicators for current and performance indicators and targets to measure. Precisely for these results, specifically identified indicators will collect the necessary information within the system of reporting and monitoring under the National Waste Management Plan (NWMP). In addition to meeting the current and target indicators for each measure, compliance will be monitored with the prescribed schedule and the level of spending for each measure.

Information on the progress of implementation of the measures of the programmes under the National Waste Management Plan (NWMP) will be collected by the institutions and organizations which are referred to as leaders responsible for the implementation of the measure. Each of these institutions will determine the responsible coordinating unit of the structure, which collects information from other units of the institution on the progress of measures implementation within their competence, the reasons for failure or delay in the implementation of measures, including due to partners, and suggestions for corrective action if necessary. The Coordinating Unit, established within the institution or organization, will

collect and systematize information gathered from all units that are relevant to the implementation of the specific programme measures. The Coordinating Unit of the lead institution or organization shall report to the Ministry of Environment and Water, which report will be sent at the latest by the end of January of the year following the reporting year.

Information relating to the monitoring of the implementation of all measures under the National Waste Management Plan (NWMP) will be collected and summarized annually by the "Waste Management and Soil Protection" Directorate of the Ministry of Environment and Water. For the purposes of reporting and monitoring of the implementation of measures under the programmes of the National Waste Management Plan (NWMP), the Directorate will annually classify and summarize the progress report on the implementation of measures by the end of February of the year following the reporting year.

The Ministry of Environment and Water shall send annually a letter to the leading organizations for implementation of individual measures of institutions and organizations in which they are reported to the timing and form to provide the necessary reporting information. To facilitate the compilation of the annual information from municipalities to implement measures of the National Waste Management Plan (NWMP) due to the large number (264 municipalities) and their key role in the implementation of important strategic and operational objectives of the plan annually, the Ministry of Environment and Water will send the beginning of each year a questionnaire that municipalities shall collect and report to the Ministry for the achievement of the measures for which no information is collected through the integrated national information system for waste management. A similar method has been successfully applied in the development of analyzes for the preparation of the National Waste Management Plan (NWMP), with about 95% of total completed questionnaires.

The annual report on the implementation of the programme of measures under the National Waste Management Plan (NWMP) will be approved by the Minister of Environment and Water, after consideration by the Collegium of the Ministry.

Pursuant to the requirements of Article 49, paragraph 11 of the Waste Management Act, the Minister of Environment and Water will submit a report to the Council of Ministers on the implementation of the National Waste Management Plan (NWMP) every three years after its initial approval by the Government.

System to evaluate the results and update the plan

Evaluation of the results of the National Waste Management Plan (NWMP) will focus on the collection, collation and analysis of information over a period of time to achieve the objectives of the National Waste Management Plan (NWMP) by current and targeted quantitative or qualitative indicators as set for the programme objectives. Information on the indicators defined as current and target indicators for each objective will be collected through the national information system for waste management. The NSI and the EEA will submit annually to the Ministry of Environment and Water necessary information for analysis and assessment of trends, progress and achievement of the objectives of the National Waste Management Plan (NWMP). Still in the initial stage of the implementation of the National Waste Management Plan (NWMP), the Ministry of Environment and Water must be clear for the particular source and method and timing of delivery of the annual data to assess the progress of implementation of the programmed objectives.

In addition to information collected by the NSI and the EEA, it is required annually to be collected sociological information as part of the indicator for the current and targeted

implementation of the measures as set out in the National Waste Management Plan (NWMP) 2014-2020 to include an assessment of awareness, public participation and business in the performance of waste related activities. An appropriate form for such a study may be the inclusion of a set of specially developed for this purpose repeated questions to the regular surveys of poll agencies (omnibuses) or conducting annual nationally representative surveys especially for this purpose.

Need to update the National Waste Management Plan (NWMP) can occur mainly due to three reasons:

- as a result of the impact of "external" factors such as changes in the requirements of the European and Bulgarian legislation requiring a change to the planned strategic and programme objectives under the National Waste Management Plan (NWMP) and relevant programme measures
- due to default or significant delay in the implementation of the programme measures
- upon findings of variation in trends identified target indicators, despite the implementation of a basic package of priority measures, which requires the implementation of additional measures already adopted or in place of some of the measures adopted do not give the expected result in advance.

The Waste Management Act (WMA) contains the following requirements related to the monitoring and evaluation of the National Waste Management Plan (NWMP) and as part of it:

- to evaluate and report at least every six years and update it as necessary
- *every three years* after initial approval by the Government of the National Waste Management Plan (NWMP) and the National Waste Prevention Programme, the Minister of Environment and Water shall submit a report to the Council of Ministers for its implementation, which shall contain a report on the achievement of recycling targets for household waste and recycling and recovery of materials from construction waste as set out in the Act. In case of failure to achieve these objectives, the report should state the reasons and the measures to be taken to ensure future performance.

Therefore every three years, the Ministry of Environment and Water will submit to the Council of Ministers a report on the progress of implementation of the measures of the programmes and objectives under the National Waste Management Plan (NWMP) and the National Waste Prevention Programme as part of it. It is these reports include an evaluation of the implementation of the plan, i.e. trends and meeting programme objectives.

Update of the National Waste Management Plan (NWMP) will be in need of "Waste management and soil protection" of the Ministry of Environment and Water. Update of the National Waste Management Plan (NWMP) must also pass the public consultation procedures and to enforce environmental assessment of plans and programmes, and then be approved by the Council of Ministers. In terms of reconciliation procedures for reporting, monitoring and evaluation of the implementation of the National Waste Management Plan (NWMP), the procedure for updating them should be done by the triennial reports to the Council of Ministers. However, if this is required in another time period, the Waste Management Act (WMA) allows update to be performed at any time of the execution of the National Waste Management Plan (NWMP).

Reports on the implementation of the National Waste Management Plan (NWMP) and the National Waste Prevention Programme or parts of it will be published to inform the public on the website of the Ministry of Environment and Water.

VII. Appendixes



	APPENDIX 1
--	-------------------

Waste outside the scope of the Waste Framework Directive (WFD), Waste Management Act (WMA) and National Waste Management Plan (NWMP)

1. Radioactive waste;
2. Flue gases emitted to the ambient atmosphere;
3. Land (in situ), including unexcavated contaminated soil and buildings permanently connected with land;
4. Uncontaminated soil and other naturally occurring material excavated during construction activities where it is certain that the material will be used for purposes of construction in its natural state on the site (in situ) where it was excavated;
5. Decommissioned explosives;
6. Fecal matter, other than those classified in Item 8, straw and other natural materials from non-hazardous agricultural or forestry used in agriculture and forestry or for the production of energy from such biomass through processes or methodology, which do not harm the environment and do not pose any risk to human health;
7. Waste water;
8. Animal by-products, including processed products under Regulation (EC) No. 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules concerning animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No. 1774/2002 (Regulation on animal by-products) (OJ, L 300/1 of 14 November 2009), hereinafter referred to as "Regulation (EC) No. 1069/2009", except those destined for incineration, landfilling or use in a facility for biogas or composting plant;
9. Carcasses, but not from slaughtered animals, including animals that are killed to eradicate epizootic diseases, and that are disposed of in accordance with Regulation (EC) No. 1069/2009;
10. Waste resulting from prospecting, extraction, treatment and storage of mineral resources and the exploitation of quarries under the Mineral Resources Act and classified as "mining waste";
11. Sediments relocated inside surface waters in order to manage water and water bodies or flood prevention or reduce the effects of floods and droughts or land reclamation, provided that it has been proven that it does not conflict with other laws and sediments do not have dangerous properties.


	APPENDIX 2
--	-------------------

LIST OF REGIONAL WASTE MANAGEMENT ASSOCIATIONS (RWMA)

No.	Name of RWMA	Municipalities within the network of RWMA
1	Pazardzhik	Municipalities of Pazardzhik, Batak, Belovo, Bracigovo, Velingrad, Lesichovo, Peshtera, Rakitovo and Septemvri
2	Asenovgrad	Municipalities of Asenovgrad, Lucky, Parvomai, Sadovo and Kuklen
3	Rousse	Municipalities of Rousse, Vetovo, Ivanovo, Slivo pole and Tutrakan
4	Haskovo	Municipalities of Haskovo, Dimitrovgrad and Mineralni Bani
5	Oryahovo	Municipalities of Oriahovo, Borovan, Byala Slatina, Kozloduy, Misia, Hayredin and Knezha
6	Karlovo	Municipalities of Karlovo, Sopot and Hissar
7	Gabrovo	Municipalities of Gabrovo, Tryavna
8	Lovech	Municipalities of Lovech, Letnitsa and Ugarchin
9	Pernik	Municipalities of Pernik, Radomir, Breznik, Tran, Kovachevtzi and Zemen
10	Troyan	Municipalities of Troyan and Apriltsi
11	Panagiuershte	Municipalities of Panagiuershte and Strelcha
12	Plovdiv – Shishmantsi	Municipalities of Plovdiv, Brezovo and Rakovski
13	Gotse Delchev	Municipalities of Gotse Delchev, Garmen and Hadzhidimovo
14	Tsalapitsa	Municipalities of Rodopi, Kaloianovo, Krichim Perushtica, Maritsa, Stambolijski and Saedinenie
15	Yambol	Municipalities of Yambol, Sliven, Nova Zagora, Straldzha and Tundzha
16	Sandanski	Municipalities of Sandanski, Kresna and Strumiani
17	Harmanli	Municipalities of Harmanli, Lubimets, Madzharovo Svilengrad, Simeonovgrad, Stambolovo and Topolovgrad
18	Montana	Municipalities of Montana, Berkovitsa, Boychinovtsi, Brusartsi, Valchedram, Varshetz, Georgi Damyanovo, Lom, Medkovets, Krivodol, Chiprovtsi and Yakimovo

No.	Name of RWMA	Municipalities within the network of RWMA
19	Madan	Municipalities of Madan, Zlatograd and Nedelino
20	Targovishte	Municipalities of Targovishte and Popovo
21	Sozopol	Municipalities of Sozopol, Primorsko and Tsarevo
22	Omurtag	Municipalities of Omurtag, Kotel and Varbitza
23	Sevlievo	Municipalities of Sevlievo, Suhindol and Drianovo
24	Kostinbrod	Municipalities of Kostinbrod, Bozhurishte, Godech Dragoman, Svoje and Slivnitza
25	Doupnitsa	Municipalities of Doupnitsa, Bobov Dol, Kyustendil, Nevestino, Separeva Banya and Treklyano
26	Blagoevgrad	Municipalities of Blagoevgrad, Simitli, Boboshevo, Kocherinovo and Rila
27	Zlatitza	Municipalities of Zlatitza, Anton, Koprivshitzta, Mirkovo, Pirdop, Chavdar and Chelopech
28	Razlog	Municipalities of Razlog, Bansko, Belitza and Yakorouda
29	Bourgas	Municipalities of Bourgas, Aytos, Cameno, Karnobat, Nessebar, Pomorie, Ruen, Sredets and Sungurlare
30	Varna	Municipalities of Varna, Aksakovo and Belevo
31	Dobrich	Municipalities of Dobrich, Balchik, General Toshevo, Dobrich, Kavarna, Krushari, Tervel, Shabla and Nicola Kozlevo
32	Provadiya	Municipalities of Provadija, Avren, Vetrino, Valchidol, Devnia, Dolni Chiflik, Dulgopol and Suvorovo
33	Veliko Tarnovo	Municipalities of Veliko Tarnovo, Gorna Oryahovitsa, Elena, Zlatarica, Liaskovets and Strazhitsa
34	Byala	Municipalities of Neptun, Polski Trumbesh, Borovo, Dve Mogili, Tsenovo and Opaka
35	Vidin	Municipalities of Vidin, Belogradchik, Boynitsa, Bregovo, Gramada, Makresh, Dimovo, Kula, Novo Selo, Ruzhintsi and Chuprene
36	Pleven	Municipalities of Pleven, Gulyantsi, Dolna Mitropolia, Dolni Dubnik, Iskar and Pordim
37	Levski	Municipalities of Levski, Pavlikeni, Belene, Svishtov and Levski

No.	Name of RWMA	Municipalities within the network of RWMA
38	Lukovit	Municipalities of Lukovit, Roman, Teteven, Yablanitsa and Cherven Bryag
39	Botevgrad	Municipalities of Botevgrad, Etropole and Pravets
40	Kostenets	Municipalities of Kostenets, Dolna Banya, Ihtiman and Samokov
41	Stara Zagora	Municipalities of Stara Zagora, Tvurditsa, Bratya Daskalovi, Gurkovo, Galabovo, Kazanlak, Maglizh, Nikolaevo, Opan, Pavel Banya, Radnevo and Chirpan
42	Kardzhali	Municipalities of Kardzhali, Ardino, Dzhebel, Kirkovo, Krumovgrad, Momchilgrad, Chernoochene and Ivaylovgrad
43	Petrich	Municipality of Petrich
44	Vratsa	Municipalities of Vratsa and Mezdra
45	Silistra	Municipalities of Silistra, Alfatar, Glavinitsa, Dulovo, Kaynardzha and Sitovo
46	Razgrad	Municipalities of Razgrad, Zavet, Isperih, Kubrat, Loznitsa, Samouil and Tsar Kaloyan
47	Dospat	Municipalities of Dospat, Satovcha, Borino, Devin
48	Smolyan	Municipalities of Smolyan, Chepelare and Banite
49	Malina	Municipalities of Gorna Malina and Elin Pelin
50	Elhovo	Municipalities of Elhovo and Boliarovo
51	Shoumen	Municipalities of Shoumen, Veliki Preslav, Venetz, Kaolinovo, Kaspichan, Novi Pazar, Smiadovo and Hitrino
52	Antonovo	Municipality of Antonovo
53	Sofia Municipality	Municipality of Sofia
54	Malko Tarnovo	Municipality of Malko Tarnovo
55	Rudozem	Municipality of Rudozem

	APPENDIX 3
---	-------------------

Indicative list of RWMAAs where it is feasible to build waste pre-treatment facilities for recovery of household waste and prevention of greenhouse gas emissions

1. Rudozem
2. Zlatitza
3. Elhovo
4. Sozopol
5. Madan
6. Gorna Malina
7. Troyan
8. Dospat
9. Smolyan
10. Sevlievo
11. Omurtag
12. Lovech
13. Sandanski
14. Botevgrad
15. Gotse Delchev
16. Petrich
17. Panagurishte
18. Kostinbrod
19. Oriahovo
20. Provadiya
21. Asenovgrad
22. Blagoevgrad
23. Razgrad
24. Doupnitsa
25. Kardzhali
26. Shoumen
27. Pazardzhik

	APPENDIX 4
---	-------------------

Indicative list of RWMA's where it is feasible to build facilities for composting and anaerobic digestion

1. Pazardzhik
2. Asenovgrad
3. Rousse
4. Haskovo
5. Oriahovo
6. Karlovo
7. Gabrovo
8. Lovech
9. Pernik
10. Troyan
11. Panagurishte
12. Plovdiv - Shishmantsi
13. Gotse Delchev
14. Plovdiv – Tsalapitsa
15. Yambol
16. Sandanski
17. Harmanli
18. Montana
19. Madan
20. Targovishte
21. Sozopol
22. Omurtag
23. Sevlievo
24. Kostinbrod
25. Doupnitsa
26. Blagoevgrad
27. Zlatitza
28. Razlog
29. Bourgas
30. Varna
31. Dobrich
32. Provadiya
33. Veliko Tarnovo
34. Byala
35. Vidin
36. Pleven
37. Levski
38. Lukovit
39. Botevgrad
40. Kostenets
41. Stara Zagora
42. Kardzhali
43. Petrich
44. Vratsa
45. Silistra

46. Razgrad
47. Dospat
48. Smolyan
49. Gorna Malina
50. Elhovo
51. Shoumen
52. Antonovo
53. Malko Tarnovo
54. Rudozem

	APPENDIX 5
--	-------------------

Indicative list of RWMA, where it is feasible to purchase and install composters for home composting


1. Pazardzhik
2. Asenovgrad
3. Rousse
4. Haskovo
5. Oriahovo
6. Karlovo
7. Gabrovo
8. Lovech
9. Pernik
10. Troyan
11. Panagurishte
12. Plovdiv Shishmantsi
13. Gotse Delchev
14. Plovdiv Tsalapitsa
15. Yambol
16. Sandanski
17. Charmanlii
18. Montana
19. Madan
20. Targovishte
21. Sozopol
22. Omourtag
23. Sevlievo
24. Kostinbrod
25. Doupnitsa
26. Blagoevgrad
27. Zlatitza
28. Razlog
29. Bourgas
30. Varna
31. Dobrich
32. Provadiya
33. Veliko Tarnovo
34. Byala
35. Vidin
36. Pleven
37. Levski
38. Republic
39. Botevgrad
40. Kostenec
41. Stara Zagora
42. Kardzhali
43. Petrich
44. Vratsa
45. Silistra

46. Razgrad
47. Dospat
48. Smolyan
49. Malina
50. Elhovo
51. Shoumen
52. Antonovo
53. Metropolitan (Sofia) Municipality
54. Malko Tarnovo
55. Rudozem

	APPENDIX 6
---	-------------------

Indicative list of RWMA, where it is feasible to build landfills, additional cells and other neighbouring site infrastructure

1. Pazardzhik
2. Oriahovo
3. Omourtag
4. Doupnitsa
5. Blagoevgrad
6. Zlatitza
7. Provadiya
8. Kardzhali
9. Razgrad
10. Dospat
11. Plovdiv - Shishmantsi

	APPENDIX 7
---	-------------------

Indicative list of RWMA's, where it is feasible to build transfer stations for municipal waste

1. Pazardzhik (one transfer station serving municipalities Rakitovo Velingrad)
2. Doupnitsa (one transfer station serving the municipalities of Kyustendil, Nevestino and Treklyano)
3. Provadiya (2 transfer stations serving local Provadiya and Dolni Chiflik)
4. Targovishte (one transfer station serving the municipality of Popovo)
5. Kardzhali (4 transfer stations serving Ardino, Ivaylovgrad, Kroumovgrad and Kirkovo)

	APPENDIX 8
---	-------------------

Methodology, program, research and other publications in the field of waste prevention

1. "Guidance document on Preparing a Waste Prevention Programme " European Commission, Directorate-General Environment
2. Austrian waste prevention programme – Bundesabfallwirtschaftsplan 2011, Band 1, Kapitel 6 – Abfallvermeidungsprogramm, Herausgeber: Bundesministerium fuer Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft
3. Arcadis report- Final report Analysis of the evolution of waste reduction and the scope of waste prevention, European Commission DG Environment, Framework contract ENV.G.4/FRA/2008/0112
4. Guidelines on the Preparation of Food Waste Prevention Programmes, As part of the study on the evolution of (bio-)waste generation / prevention and (BIO-) waste prevention indicators, A project under the Framework contract ENV.G.4/FRA/2008/0112
5. ORDIS report (Observatoire Regional des Dechets d, Ile-de-France) during final conference within European Waste and Resource Conference Days, Brussels 07.11.2012 r.
6. Report on standards and practices in public procurement in Bulgaria - European project „Buy Smart+“, www.buy-smart.info
7. Green procurement in Bulgaria - survey Forte Media Stara Zagora in the project ECREIN + implemented with financial support from the ERDF and program INTERREG IVC
8. Guidelines for the interpretation of key provisions of Directive 2008/98/EC on waste, Directorate-General Environment, June 2012
9. National Action Plan to promote green procurement 2012-2014, Public Procurement Agency
10. German research - Apply the content of art. 29 of Directive 2008/98/EC issued by the Federal Environment Agency in June 2013 (Inhaltliche Umsetzung von Art. 29 der Richtlinie 2008/98/EC, Wissenschaftlich-technische Grundlagen fuer ein bundesweites Abfallvermeidungsprogramm, Dessau-Rosslau, Juni 2013, Umweltbundesamt)
11. German program or program of the Federal Republic of Germany - Abfallvermeidungsprogramm des Bundes unter Beteiligung der Länder, Bundesministerium fuer Umwelt, Naturschutz und Reautorsicherheit, Juli 2013
12. Community initiatives to support systems for environmental management in small and medium-sized enterprises - Final Report of the Expert Group, European Commission, Directorate-General "Enterprise", 2004
13. Challenges in new circular economy, Herausforderungen an eine neue Kreislaufwirtschaft - Urban, Arnd I. / Halm, Gerhard, 2012, Kassel university press GmbH, Kassel

14. Waste prevention – Best practices, web page of European Commission, Directorate-General Environment
15. Guidelines for Green Procurement "Buy green" Second edition, European Commission
16. Guidance document on Preparing a Waste Prevention Programme, European Commission, Directorate-General Environment, October 2012
17. The Commission Communication to the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Public procurement for a better environment COM (2008) 400

	APPENDIX 9
---	-------------------

Measures for monitoring and control of the implementation of the National Waste Management Plan (NWMP) 2014-2020

1. Every three years of the Plan implementation, Directorate "Waste management and Soil Protection" of the Ministry of Environment and Water shall prepare reports on the monitoring and control of the environmental impact of the implementation of NWMP 2014-2020, including measures to prevent, reduce and eliminate as fully as possible the potential adverse consequences of the implementation of the plan. Prepared reports shall be presented to Directorate "Preventive Activity" of the Ministry of Environment and Water for approval.

2. Monitoring and control of environmental impact of the implementation of NWMP 2014-2020 shall be based on the following measures and indicators:

Measures and Indicators for monitoring and control / measure unit	Source of information
Number of built separating facilities, incl.: <ul style="list-style-type: none"> • Amount waste processed, tons; • Amount of waste for recovery – by type, tons. 	ExEA RIEW
Number of built systems, equipment and installations for selective demolition, preparation, recovery and recycling of construction waste and production of recycled construction materials, including: <ul style="list-style-type: none"> • Amount waste processed, tons; • Amount of obtained products, tons. 	ExEA RIEW
Number of built facilities for treatment of each specific stream of waste, incl.: <ul style="list-style-type: none"> • Amount waste processed, tons; • Amount of obtained products, tons. 	ExEA RIEW
Condition of surface and groundwater according to results from internal monitoring of the sites of existing installations, systems and equipment.	ExEA RIEW Basin Directorates

3. In case of identified adverse effects on environment and/or human health measures for their possible elimination shall be proposed and taken in due time.