NEAR/SKP/2022/EA-RP/0137

EU Policies and National legislation on waste management

Project Workshop, October 16th, 2024 – Štip

Public Consultation Procedure for the revision of RWMPs and SEAs

Main EU Policies on Waste Management

- The Waste Framework Directive 2008/98/EC
- The Directive (EU) 2018/851 amending Directive 2008/98/EC
- Directive 94/62/EC on packaging and packaging waste
- Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste
- Directive 1999/31/EC on the landfill of waste
- Directive (EU) 2018/850 amending Directive 1999/31/EC on the landfill of waste
- Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)
- Directive 2024/884/EU amending Directive 2012/19/EU on WEEE
- REGULATION (EU) 2023/1542 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC
- Directive 2000/53/EC on End-of Life Vehicles
- Directive 2010/75/EC on Industrial Emissions
- Council Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture

The WFD 2008/98/EC as amended by Directive 2018/851/EU

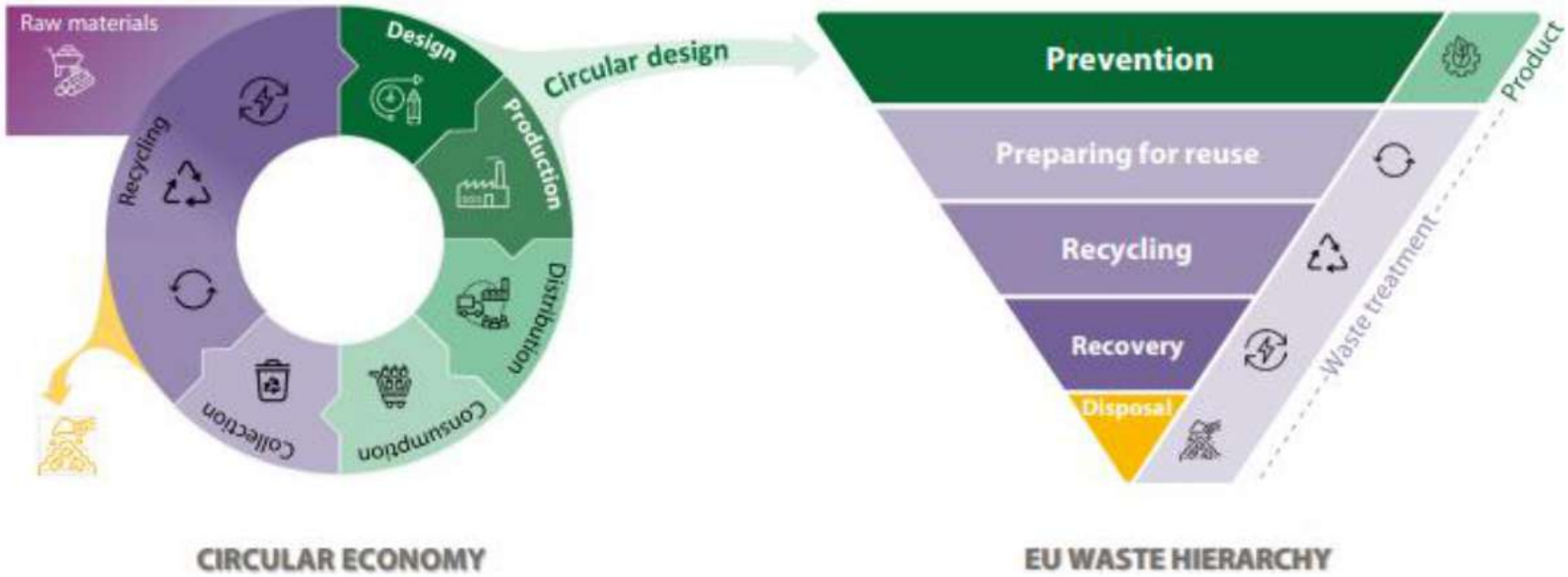
- The WFD, lays down some basic waste management principles. It requires that waste be managed:

- without endangering human health and harming the environment
- without risk to water, air, soil, plants or animals
- without causing a nuisance through noise or odours
- and without adversely affecting the countryside or places of special interest

- Targets:

- by **2020**, the **preparing for re-use, recycling and other material recovery**, including backfilling operations using waste to substitute other materials, of **non-hazardous construction and demolition waste** shall be increased to a minimum of **70 % by weight**
- the **preparing for re-use and the recycling of municipal waste** shall be increased to a minimum of **55 %, 60% and 65% by weight by 2025, 2030 and 2035**

Waste hierarchy



CIRCULAR ECONOMY

EU WASTE HIERARCHY

National Waste Management Legislation

- Six new laws on waste management were adopted in 2021:
  - The Law on Waste Management
  - Law on Electrical and Electronic Equipment and waste from electrical and electronic
  - Law on batteries and accumulators and waste batteries and accumulators
  - Law on packaging and packaging waste
  - Law on additional waste streams
  - Law on Extended Producer Responsibility
- Policy documents on which the Laws on Waste Management are based:
  - National Waste Management Strategy 2024-2036 (draft)
  - National Waste Management Plan (NWMP 2021-2031)
  - National Waste Prevention Plan (2022-2028)
  - National Strategy for sludge management (under preparation)
  - Regional Waste Management Plans (RWMPs)

Proposed short-list of priority areas for North Macedonia

	Sectors / materials (incl. measures for production, consumption and waste mngt)			Cross-cutting areas (no specific sector /material focus)
1st priority	**Construction** (incl. sustainable production of materials and CDW mngt, can integrate circular business models)		**Municipal waste management** (incl. bio-waste)	**Circular business models for SMEs**
2nd priority	**Textiles** (incl. reuse and recycling, can integrate circular business models)	**Mining and metallurgy**	**Plastics** (can include packaging and plastic waste mngt)	**Economic instruments** (enabling framework for businesses and consumers)
Not to be included / integrated into other areas	**Automotive** (ELV can be part of municipal waste mngt)	**Wood industry**	**Biomass and food** (agri-food, can be partly integrated into other priorities)	**Awareness raising and education**

Source:TOWARDS A CIRCULAR ECONOMY ROADMAP OF NORTH MACEDONIA, OECD 2023

National Waste Management Plan 2021-2031
Circular Economy – Key Actions

- The NWMP provides a framework of measures and foresees a period in which the country's activities could move in accordance with the new CEAP for a cleaner and more competitive Europe.

A SUSTAINABLE PRODUCT POLICY FRAMEWORK	
Legislative proposal for **a sustainable product policy initiative**	2022
Legislative proposal **empowering consumers in the green transition**	2022
Legislative and non-legislative measures establishing a new **"right to repair"**	2022
Legislative proposal on substantiating **green claims**	2022
Mandatory Green Public Procurement (GPP) criteria and targets in sectoral legislation and phasing-in **mandatory reporting on GPP**	2022
Review of the **Industrial Emissions Directive**, including the integration of circular economy practices in upcoming Best Available Techniques reference documents	2022
Launch of an **industry-led industrial symbiosis reporting and certification system**	2024

KEY PRODUCT VALUE CHAINS	
Circular Electronics Initiative, **common charger solution,** and **reward systems to return old devices**	2025
Review of the Directive on the **restriction of the use of certain hazardous substances in electrical and electronic equipment** and guidance to clarify its links with REACH and Ecodesign requirements	2025
Proposal for a new **regulatory framework for batteries**	2025
Review of the rules on **end-of-life vehicles**	2025
Review of the rules on proper treatment of **waste oils**	2025
Review to reinforce the **essential requirements for packaging** and **reduce (over)packaging and packaging waste**	2024
Mandatory requirements on **recycled plastic content** and **plastic waste reduction measures** for key products such as packaging, construction materials and vehicles	2024
Restriction of **intentionally added microplastics** and measures on **unintentional release of microplastics**	2025
Policy framework for **bio-based plastics and biodegradable or compostable plastics**	2024
EU Strategy for Textiles	2022
Strategy for a Sustainable Built Environment	2022
Initiative to **substitute single-use packaging, tableware and cutlery by reusable products in food services**	2021

National Waste Management Plan 2021-2031
Circular Economy – Key Actions

LESS WASTE, MORE VALUE	
Waste reduction targets for specific streams and other measures on **waste prevention**	2022
EU-wide **harmonised model for separate collection of waste and labelling** to facilitate separate collection	2022
Methodologies to track and minimise the presence of substances of concern in recycled materials and articles made thereof	2024
Harmonised information systems for the presence of substances of concern	2024
Scoping the development of further **EU-wide end-of-waste and by-product criteria**	2024
Revision of the rules on **waste shipments**	2022

MAKING THE CIRCULAR ECONOMY WORK FOR PEOPLE, REGIONS AND CITIES	
Supporting the circular economy transition through the **Skills Agenda**, the forthcoming **Action Plan for Social Economy**, **the Pact for Skills** and the **European Social Fund Plus.**	2022
Supporting the circular economy transition through **Cohesion policy funds, the Just Transition Mechanism** and **urban initiatives**	2022
CROSSCUTTING ACTIONS	
Improving measurement, modelling and policy tools to capture **synergies between the circular economy and climate change mitigation and adaptation** at EU and national level	2022
Regulatory framework for the **certification of carbon removals**	2025
Reflecting circular economy objectives in the revision of the guidelines on **state aid in the field of environment and energy**	2022
Mainstreaming circular economy objectives in the context of the rules on **non-financial reporting**, and initiatives on **sustainable corporate governance** and on **environmental accounting**	2022

LEADING EFFORTS AT GLOBAL LEVEL	
Leading efforts towards reaching a **global agreement on plastics**	After starting membership negotiations
Proposing a **Global Circular Economy Alliance** and initiating discussions on an **international agreement on the management of natural resources**	After starting membership negotiations
Mainstreaming circular economy objectives in **free trade agreements**, in other **bilateral, regional and multilateral** processes and agreements, and in **EU external policy funding instruments**	After starting membership negotiations
MONITORING THE PROGRESS	
Updating the **Circular Economy Monitoring Framework** to reflect new policy priorities and develop further **indicators on resource use**, including **consumption and material footprints**	From 2024

NEAR/SKP/2022/EA-RP/0137

Proposals for the revision of the RWMPs and SEAs

Project Workshop, October 16th, 2024 – Štip

Public Consultation Procedure for the revision of RWMPs and SEAs

Introduction

- The **purpose** is to present the major points to be considered for the update of the previous Regional Waste Management Plans (RWMPs) and Strategic Environmental Assessments (SEAs) of the East and Northeast Regions of the Republic of North Macedonia and highlight those issues which are essential for the preparation of a consistent/coherent, sustainable and practically feasible RWMP for both regions (1 RWMP and 1 SEA).

- The **basis** for the preparation of the updated RWMP is the updated legal/regulatory framework of the country (Law on Waste Management, Laws regulating specific waste streams, National Waste Management Strategy 2024-2036, National Waste Management Plan 2021-2031, National Waste Prevention Plan 2022-2028)

- **Technical documentation** produced in the past years will act as **reference** and **benchmark** for the RWMP and SEA update namely:
  - The Assessment Report of the level of implementation of the RWMPs and SEAs for E&NE Regions (NEAR/SKP/2022/EA-RP/0137-Activity 2/Task 2.1) (2024)
  - The previous RWMPs - EuropeAid/130400/D/SER/MK (2014)
  - The Feasibility Study - EuropeAid/136070/IH/SER/MK (2017)

Objective of RWMP

- Waste management plans have a key role to play in achieving sustainable waste management that is in line with National and EU waste legislation.
- Their main purpose is to give an overview of all waste generated (including imported, and by specific waste streams) and treatment options for this waste. The plans will provide a framework for the following:
  - Compliance with waste policy and target achievement
  - Inventory of waste and capacity for managing it
  - Outline of needs and future developments
  - Outline for management of specific waste streams (e.g., packaging waste, biodegradable waste etc.)
  - Information on general waste management policies and technological measures
  - Outline of waste management organization
  - Awareness campaigns/information provision
  - Contaminated waste disposal sites
  - Outline of economic and investment requirements
- Improvement of human health
- Improvement of environment
- Socioeconomic benefits (cost savings in transportation and fuel costs, cost recovery through programs reducing waste, cost savings on public health systems etc.)

Source: Preparing a Waste Management Plan - A methodological guidance note European Commission Directorate-General Environment

Waste Management Regions

- Considering the National Waste Management Plan 2021-2031, the newly established regions for the waste management in the Republic of North Macedonia are presented in the map;
- The most economical solution for the regions, is to establish joint inter-regional systems for waste management;
- The roles and responsibilities of the municipalities are divided between them by a fixed agreement. The 18 municipalities of East and Northeast regions and Sveti Nikole formed the 1st public Inter-municipal enterprise for Municipal waste management based in Sveti Nikole and will operate the Inter-regional center for waste management

Contents of RWMP

Based on Article 18a paragraph (6) of the Law on Administration waste management ("Official Gazette no. 68/04, 107/07, 102/08, 143/08, 124/10, 51/11and 123/12), the Minister of Environment and Spatial planning bring Rules about the Content of the RWMP

The regional waste management plan should consist of the following chapters:

Chapter 1: Executive Summary

Chapter 2: Description of the Waste Management Region

Chapter 3: Data on the Regional Plan

Chapter 1: Executive Summary

The executive summary chapter should contain the general objectives of the regional plan, prepared based on the requirements of waste management and environmental regulations as well as strategic and planning documents in the field of waste management.

Contents of RWMP

Chapter 2: Description of Waste Management Region

The following paragraphs should be included:

- Introduction
- Geographical location
- Topographical Characteristics
- Climate
- General geology
- Hydrogeological features
- Hydrology
- Land use
- Protected areas
- Transportation infrastructure in the Region
- Water supply network
- Installations and facilities for waste handling
- Installations for wastewater treatment
- Hospitals and centers for public health
- Industrial sector
- Population size and population density
- Conclusion

Contents of RWMP

Chapter 3: Data on the Regional Plan

The following paragraphs should be included:

- Basis for Waste Generation (Population in urban and rural areas, Visitors and tourists, Existing data on waste generation for the MSW, Packaging waste, C&D Waste, WEEE, Batteries and Accumulators, Agricultural waste, Medical Waste, Industrial Waste)
- Socio-economic description of the region (Labor force and number of employees, GDP, Average income and available assets)
- Description and evaluation of the existing situation in waste management within the region (Existing organized waste management, activities of competent bodies for waste management, number of employees currently working on waste management, inventory list of existing equipment and facilities, waste tariffs (current tariffs, cost for waste management, revenues, affordability), collection system and collection coverage, collected materials for recycling, collected quantities, disposal)
- Analysis of the weaknesses of existing waste management system
- Waste generation forecast
- Goals, options for waste management
- Options for regional waste management system (alternative scenarios analysis, recommended scenario)
- Action Plan
- Cost estimation (Investment cost, operating cost, cash flow projections, financial plan, possible sources of financing)
- List of Indicators

Current situation

Waste management stage	Problems identified
Waste prevention	■ No activities are proposed or implemented in order to promote the reduction of waste generation by citizens and economic operators; ■ No organized campaigns to raise the level of public awareness in relation to the need to reduce waste generation and maximize waste reuse / recycling.
Waste collection	■ Approx. 86% of total municipal waste generated is collected via organized collection services; ■ A significant number of citizens, especially in rural areas remains without organized waste collection services. This results in the uncontrolled waste dumping; ■ The waste collection is mainly carried out by Municipal/Communal Companies, using rather old and insufficient equipment; ■ There is no organized separate collection of recyclable material which would facilitate recycling and reuse; ■ There is no separate collection scheme for special waste streams, such as tires, textiles, ELVs, oils; ■ There is no organized network of transfer stations that would reduce the cost of waste transport. ■ Selective collection is not implemented, except some small initiatives (in Stip), contrary to the targets imposed by the legislation and the national and regional waste management plans ■ Existing equipment and vehicles are old and insufficient

Current situation

Waste management stage	Problems identified
Recovery of recyclable material	▪ There is no organized system for waste recycling, except some initiatives of the informal sector, or some small project implemented; ▪ There are no facilities dedicated for waste sorting (Material recycling facilities) and only few companies are active in some short of recycling business, mainly for paper and plastic.
Recovery of specific waste streams	▪ PROs like PAKOMAK, ALPAK EKO, EKON ELEKTORN, NULA OTPAD, EKO FLUID GRUP, GRIN LEND GRUP, DUOT TEKSOMAK DOO, DUEOO ELECTROGRIZA DOOEL, etc. are collecting specific waste streams such as packaging waste, WEEE, waste oils.
Waste treatment	▪ There are no facilities for waste treatment. ▪ All waste is disposed-off to the non compliant landfills and dumpsites without any prior treatment.
Waste disposal	▪ The current state of all municipal landfills does not meet international standards (e.g. lack of leachate and biogas treatment facilities, lack of lining system, etc.); ▪ Waste is also disposed in dumpsites (more than 100 exist in both regions); ▪ High risk of pollution for ground and underground water and atmosphere due to the dispersion of untreated leachate and biogas.
Non compliant landfill's and/or dumpsites restoration and/or closure	Currently, in East Region, there are 11 non-compliant landfills and 71 dumpsites (closure and rehabilitation of them is under preparation) and in North-East Region there are 5 non-compliant landfills and 36 dumpsites.

	Scenario 1 (1 bin)		Scenario 2 (2 bins) Mixed + Biowaste	Scenario 3 (2 bins) Mixed + Recyclables			Scenario 4 (3 bins) Mixed + Recyclables + Biowaste
	1a (MBT)	1b (Incineration)	2	3a (MRF+ Aerobic Composting)	3b (MRF + MBS + Aerobic Composting)	3c (MRF + Incineration)	4 (MBT)
Waste Collection	One Bin collection system		Two Bin collection system (Organic Waste Bin and Mixed Bin)	Two Bin collection system (Recyclable Waste Bin and Mixed Bin)			Three Bin collection system
Green Points	√	√	√	√	√	√	√
Home Composting	√	-	-	√	√	-	-
Mixed Bin Treatment	Mechanical Biological Treatment (MBT) with Aerobic Composting	Incineration	Dirty MRF	Disposed to Landfill	MBS (Biostabilization)	Incineration	Disposed to Landfill
Recyclable waste bin treatment	-	-	-	MRF	MRF	MRF	MRF
Organic waste bin treatment	-	-	Aerobic Composting	-	-	-	Aerobic Composting
Green waste treatment	Aerobic Composting	Incineration	Aerobic Composting	Aerobic Composting	Aerobic Composting	Incineration	Aerobic Composting
Landfill	√	√	√	√	√	√	√

Main targets to be achieved

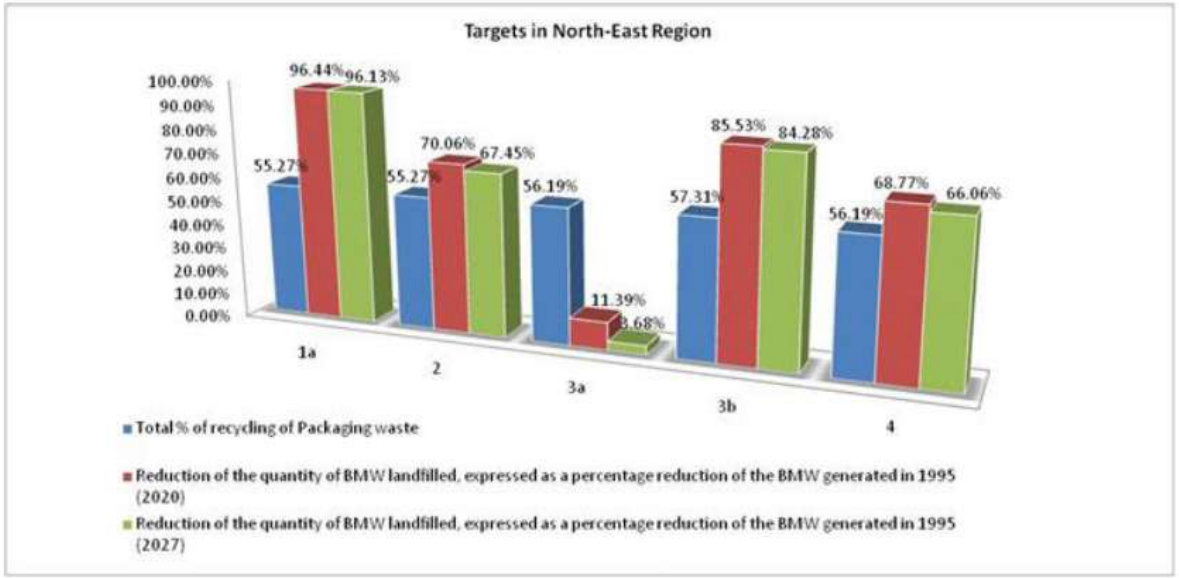
LoPPW (2009)

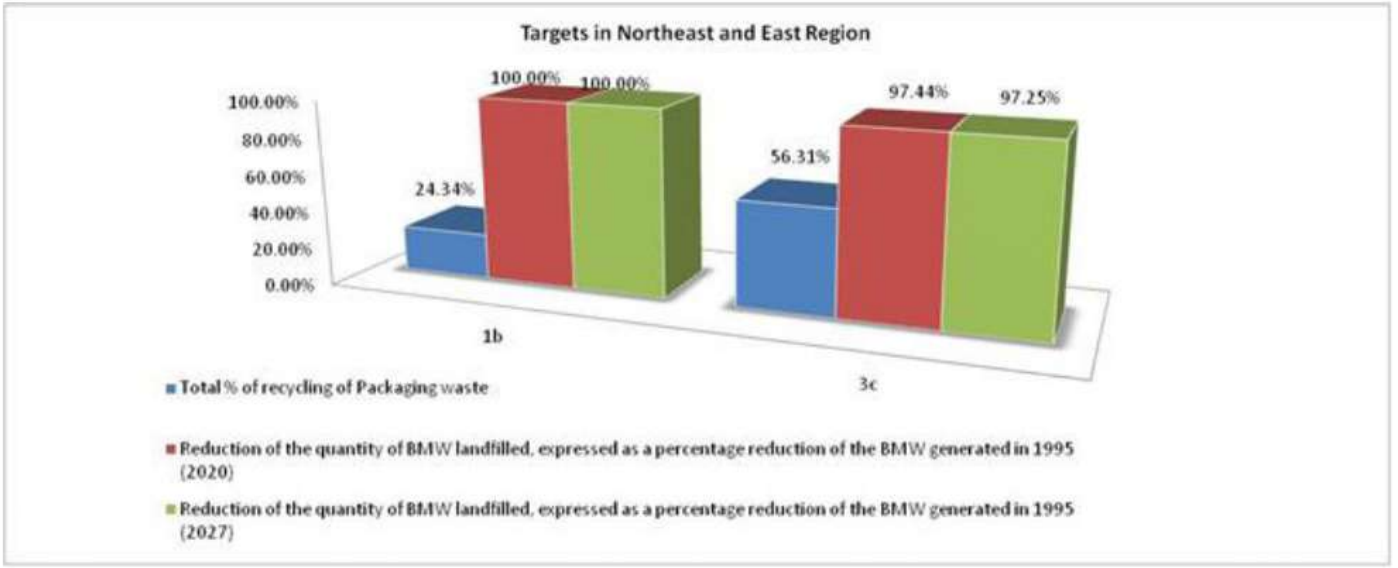
Activity/Waste Stream	Target	To be achieved by
Packaging waste	Recycling (minimum 55%-maximum 80%)	2020
Materials from the packaging waste		
❖ Glass	❖ 60%	❖ 2020
❖ Paper and cardboard	❖ 60%	❖ 2020
❖ Metals	❖ 50%	❖ 2020
❖ Plastic	❖ 22.5%	❖ 2018
❖ Wood	❖ 15%	❖ 2020

Official Gazette no. 108/2009

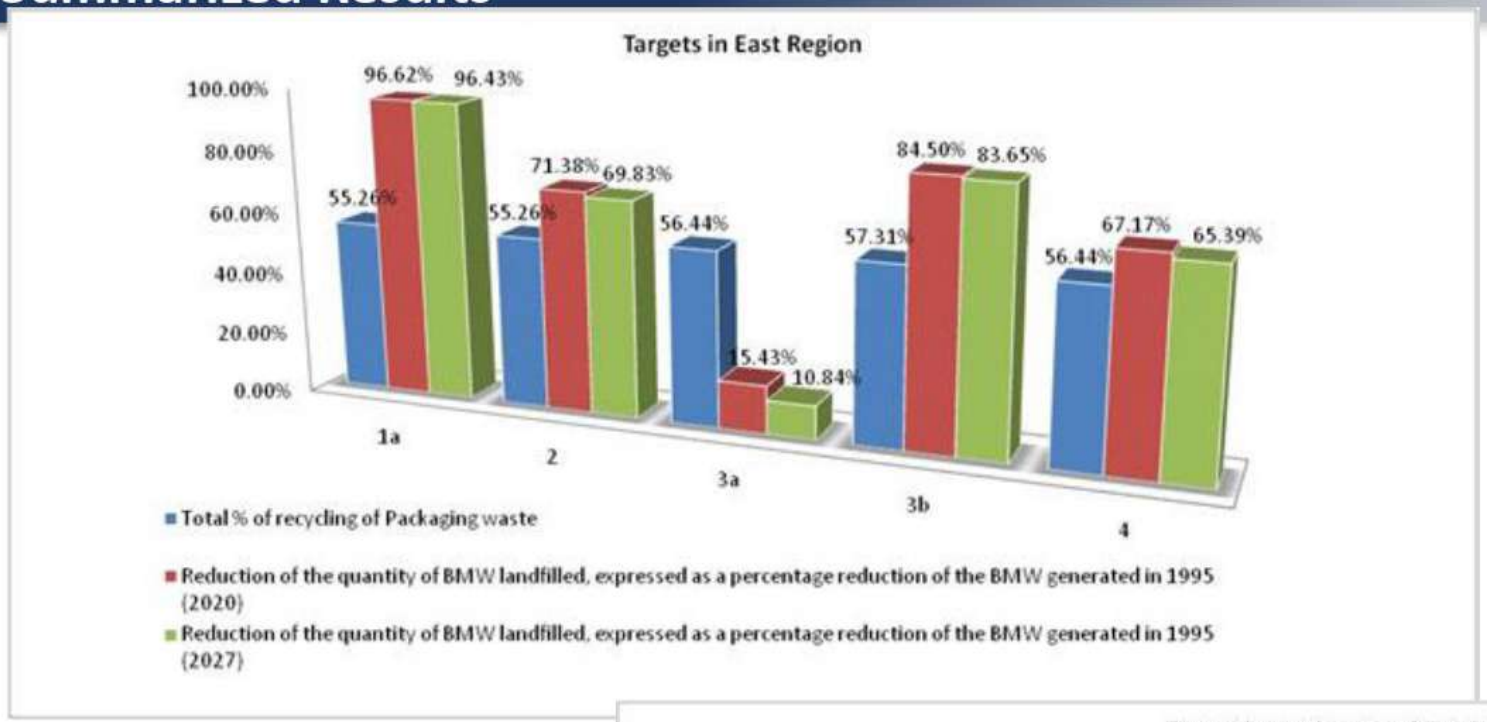
Year	Quantity of BMW that is allowed to be disposed on Landfill on the whole territory (t)	Quantity of BMW landfilled, expressed as a mass percentage of MSW generated in 1995	Reduction of the quantity of BMW landfilled, expressed as a percentage reduction of the BMW generated in 1995
1995 (Reference year)	305,000	62%	
2011-2017	229,000	47%	25%
2011-2020	153,000	31%	50%
2011-2027	107,000	22%	65%

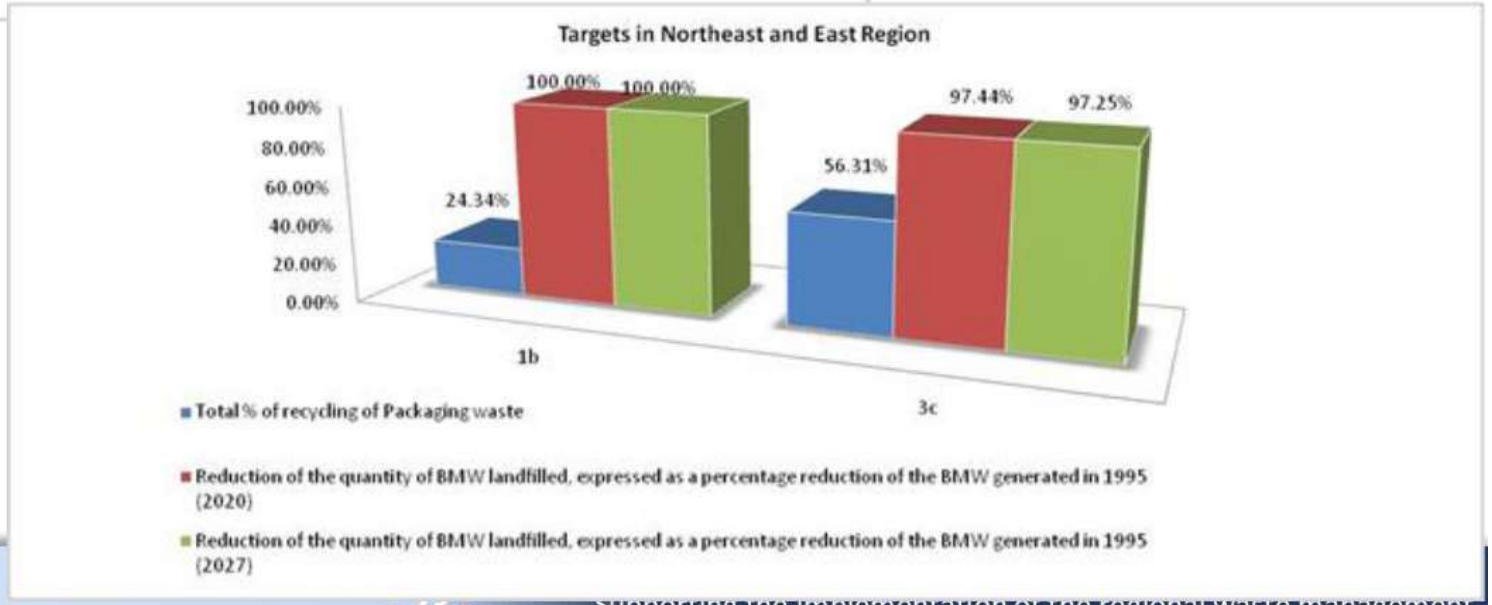
Summarized Results





Summarized Results



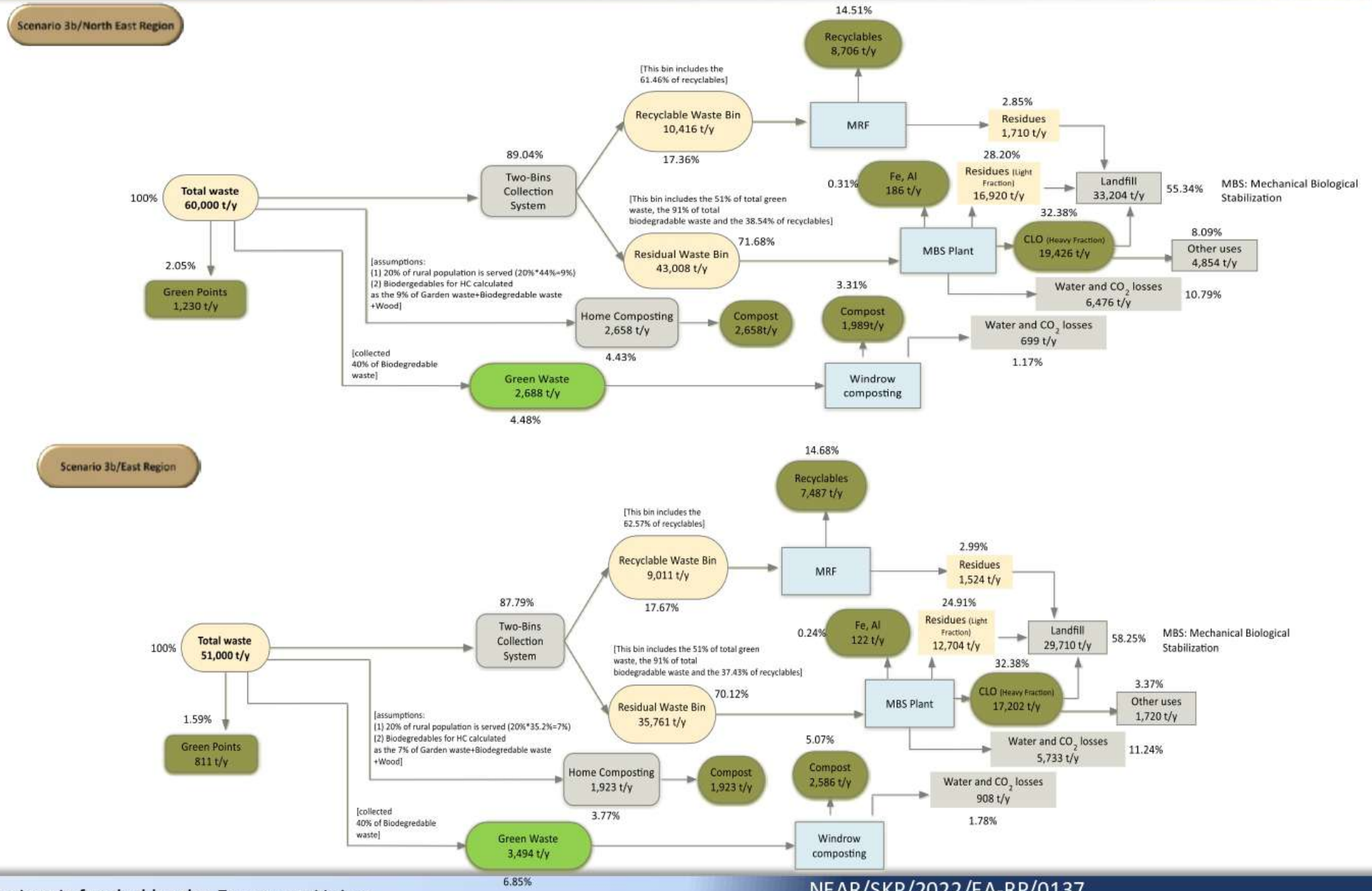


Summarized Results

Scenario	DPC (€/t)	DPC (MKD/t)
Scenario 1a/East Region	74	4.565
Scenario1b/East & North East Regions	115	7.093
Scenario 2/East Region	69	4.265
Scenario 3a/East Region	60	3.698
Scenario 3b/East Region	72	4.420
Scenario 3c/East & North East Regions	116	7.123
Scenario 4/East Region	62	3.811

Scenario	DPC (€/t)	DPC (MKD/t)
Scenario 1a/North East Region	71	4.377
Scenario1b/East & North East Regions	115	7.093
Scenario 2/North East Region	67	4.095
Scenario 3a/North East Region	58	3.571
Scenario 3b/North East Region	70	4.300
Scenario 3c/East & North East Regions	116	7.123
Scenario 4/North East Region	60	3.666

Recommended Scenario



RWMP EuropeAid/130400/D/SER/MK (2014)/

Proposed Action Plan

Stages	Actions-Measures taken
Prevention:	**Definition:** using less material in design and manufacture, keeping products for longer, re-use, using less hazardous materials **Proposed actions:** ✓ Waste prevention awareness activities (targeted to households, as well as specific target groups, i.e. businesses, municipalities, hospitals, etc). ✓ Funding and implementation of re-use based projects and services in the municipalities of the Region. ✓ Support and enable community and voluntary sector, i.e. food banks, feed the poor initiatives, etc. ✓ Preparation and elaboration of various waste prevention guidelines ✓ Research and development ✓ Food waste prevention, reduction of paper use, reduction of glass containers
Preparing for re-use:	**Definition:** checking, cleaning, repairing, refurbishing, whole items or spare parts **Proposed actions:** ✓ Promote remanufacture and repair (public awareness campaigns, etc.). ✓ Presentation of good practice (benefits) and training of the targeted groups. ✓ Promotion and establishment of remanufacture/repair/reuse centers.
Recycling:	**Definition:** turning waste into a new substance or product, includes composting if it meets quality protocols (The products of the measure are compost and recyclables) **Proposed actions:** ✓ Implementation of two- bin collection system (recyclable waste bin and residual waste bin) and subsequent treatment of the contents of the recyclable waste bin in a Material Recovery Facility (MRF). • Biostabilisation of residual waste bin (MBS) • Separate Collection of green waste and windrow composting of the separately collected green waste ✓ Home composting (20% of rural population) Strengthening of the public and private waste management sector in the Region to introduce and practice two-bin collection system (training, preparation of guides, technical equipment-hardware and software etc). ✓ Public awareness (focused to the main target groups) for practicing of two-bin collection system. ✓ Public awareness campaigns, transfer of knowledge, presentation of good practice and preparation of practical guides. ✓ Construction and operation of Green points
Other recovery:	**Definition:** includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste, some backfilling **Proposed actions:** Waste management options that fall under the category of „Other recovery", as specified in the Waste Framework Directive, were not proposed.
Disposal:	**Definition:** landfill and incineration without energy recovery **Proposed actions:** ✓ Landfilling of residues from MRF and Mechanical Biological Stabilisation of residual waste bins (MBS). ✓ Identification of the location for the Regional landfill. ✓ Providing technical documentation and consent for building.

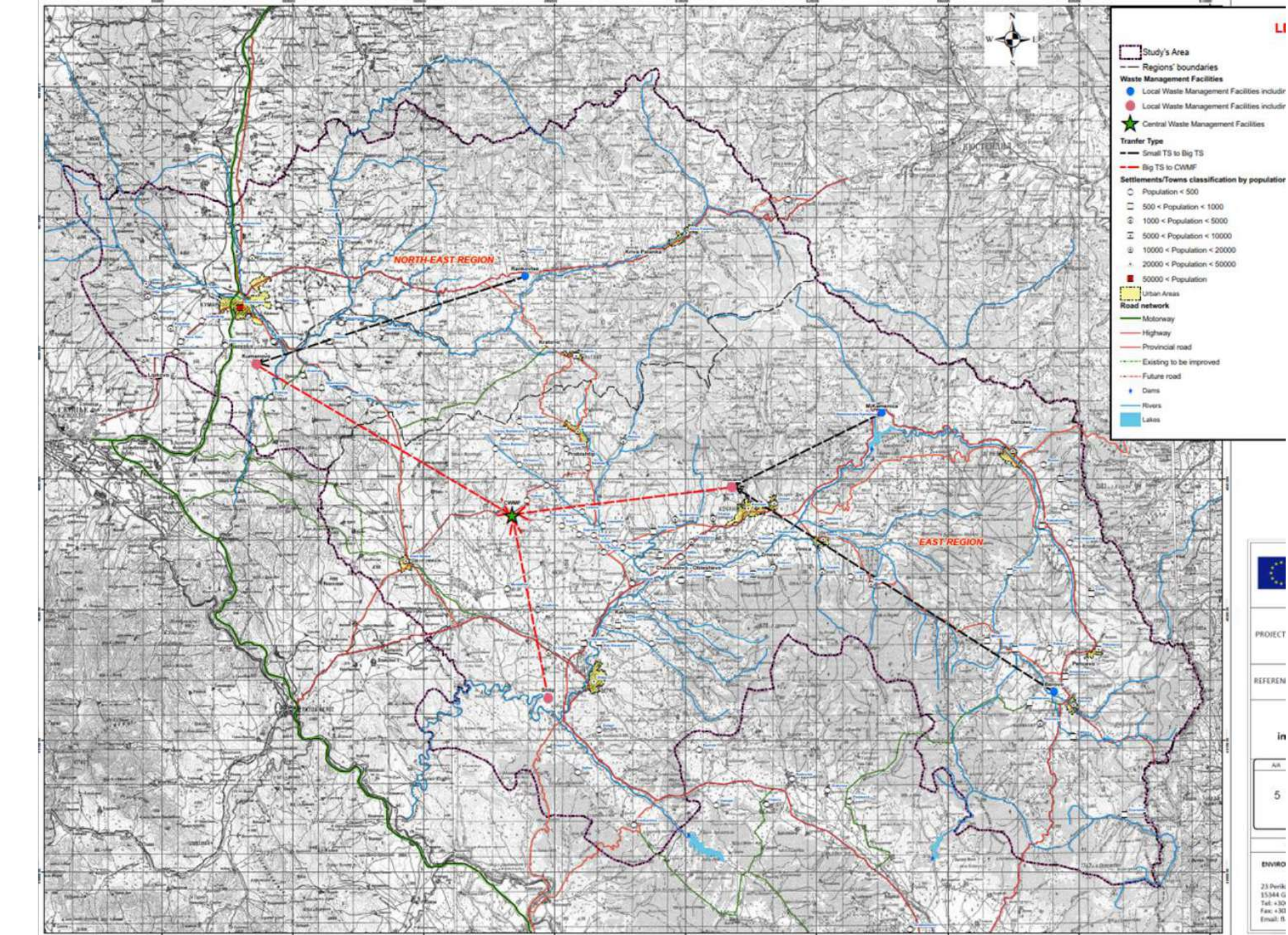
Waste Management Zones

Under the Feasibility Study for the development of an integrated and self-sustainable waste management system in East and NorthEast Regions, the following waste management zones were proposed:

- **Waste management zone of Berovo**
  - Will include a LWMF with Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve Berovo and Pehchevo Municipalities
- **Waste management zone of M. Kamenica**
  - Will include a LWMF with Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve M. Kamenica and Delchevo Municipalities
- **Waste management zone of Kocani**
  - Will include a LWMF with a big Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve Kocani, Vinitsa, Zrnovci and Chesinovo-Obleshevo Municipalities
- **Waste management zone of Stip**
  - Will include a LWMF with a big Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve Stip and Karbinci Municipalities

Waste Management Zones

- **Waste management zone of Rankovce**
  - Will include a LWMF with Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve Rankovce, Kriva Palanka and Kratovo Municipalities
- **Waste management zone of Kumanovo**
  - Will include a LWMF with big Transfer Station, small composting facility and a green point
  - Home composting actions
  - Will serve Kumanovo, Lipkovo and Staro Nagoricane Municipalities
- **Waste management zone of Sveti Nikole**
  - Will include a CWMF with MRF, MBT, sanitary landfill, small compost facility and a green point
  - Home composting actions
  - MRF, MBT, sanitary landfill will serve both regions
  - Small compost facility and green point will serve Sveti Nikole and Probistip Municipalities


NORTH-EAST REGION
EAST REGION
CWMF
Study's Area
Regions' boundaries
Waste Management Facilities
Local Waste Management Facilities includir
Local Waste Management Facilities includir
Central Waste Management Facilities
Tranfer Type
Small TS to Big TS
Big TS to CWMF
Settlements/Towns classification by populatior
Population < 500
500 < Population < 1000
1000 < Population < 5000
5000 < Population < 10000
10000 < Population < 20000
20000 < Population < 50000
50000 < Population
Urban Areas
Road network
Motorway
Highway
Provincial road
Existing to be improved
Future road
Dams
Rivers
Lakes

The alternative options that were examined under the Feasibility Study for the development of an integrated and self-sustainable waste management system in East and NorthEast Regions were the following:

- Option 1: Business as Usual (BaU) - Mixed waste collection and disposal in existing landfills and dumpsites
- Option 2: Do minimum – Separate collection, recycling in new MRF and disposal in new compliant landfill
- Option 3: Do something – Collection, recycling, treatment and disposal in new facilities
  - Option 3i, MBT/Biostabilization plant
  - Option 3ii, MBT/Biodrying plant
  - Option 3iii, MBT/Anaerobic Digestion plant
  - Option 3iv, MBT/RDF plant
  - Option 3v, Waste to Energy plant

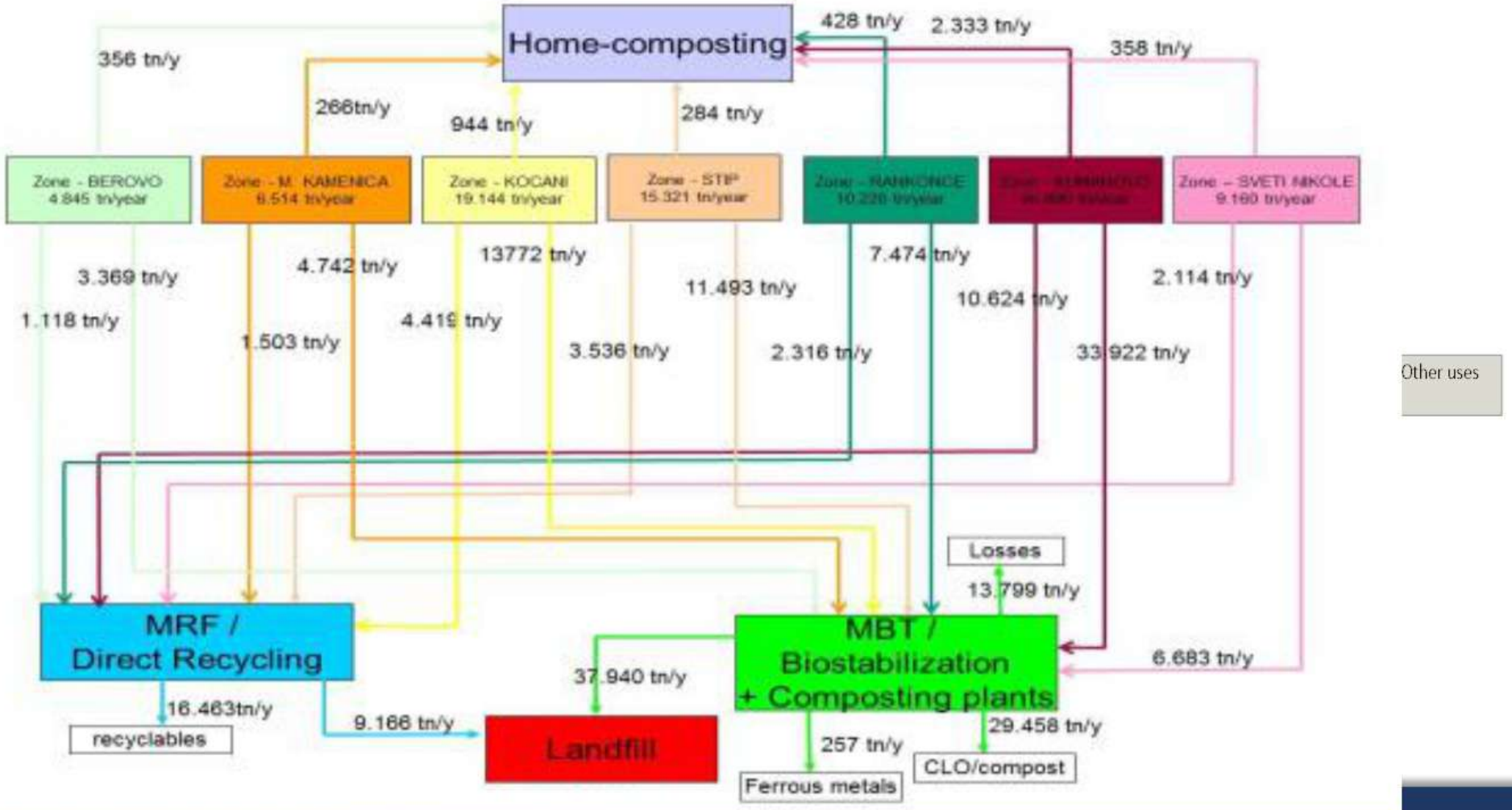
Option 1: BaU	Option 2: Do minimum	Option 3i: MBT/biostabilization plant	Option 3ii: MBT / biodrying plant	Option 3iii: MBT / AD plant	Option 3iv: MBT / RDF plant	Option 3v: WtE plant
Waste collection						
Mixed collection	Separate collection of recyclables (2 bin system)	Separate collection of recyclables (2 bin system and green waste				
Home composting: 4.970 tn/y						
Transfer stations						
No TS	No TS	○ In Berovo, serving Berovo and Pehcevo, with a total capacity of 4.200 t/year ○ In M. Kamenica, serving M. Kamenica and Delchevo, with a total capacity of 5.800 t/year ○ In Kocani, serving Kocani, Vinitsa, Zrnovci, Cheshinovo, TS of Berovo and TS of M. Kamenica, with a total capacity of 27.000 t/year (17.000 t from municipalities and 10.000 t from other TS) ○ In Stip, serving Stip and Karbinci, with a total capacity of 14.100 t/year ○ In Rankovce, serving Kriva Palanka, Rankovce and Kratovo, with a total capacity of 9.400 t/year ○ In Kumanovo, serving Kumanovo, Lipkovo, Staro Nagoricane and TS of Rankovce, with a total capacity of 52.000 t/year (42.600 t from municipalities and 9.400 t from TS of Rankovce)				
Wood Recycling: 40 tn/y						
Material Recycling Facility						
No MRF	○ Approx 23% of the total waste, which will be collected in the bins for recyclables will be sorted in the central MRF to be developed in Sveti Nikole, Meckuevci – Arbasanci. The total capacity for this sorting plant is approx. 25.600 tn/year and will produce 16.400 tn/year of recyclables and 9.200 tn/year of residues. ○ The materials that will be recovered include metal, glass, paper/cardboard, and plastic ○ All residues that will be generated will end up in the landfill					
Composting plants						
No Composting plant	No composting plant	○ In Berovo, serving Berovo and Pehcevo, with a total capacity of 332 t/year, generating 166 tn/y of compost and 33 tn/y of residues ○ In M. Kamenica, serving M. Kamenica and Delchevo, with a total capacity of 446 t/year, generating 223 tn/y of compost and 45 tn/y of residues ○ In Kocani, serving Kocani, Vinitsa, Zrnovci, Cheshinovo, TS of Berovo and TS of M. Kamenica, with a total capacity 1.311 t/year, generating 656 tn/y of compost and 131 tn/y of residues ○ In Stip, serving Stip and Karbinci, with a total capacity of 1.049 t/year, generating 525 tn/y of compost and 105 tn/y of residues ○ In Rankovce, serving Kriva Palanka, Rankovce and Kratovo, with a total capacity of 458 t/year, generating 229 tn/y of compost and 46 tn/y				

Option 1: BaU	Option 2: Do minimum	Option 3i: MBT/biostabilization plant	Option 3ii: MBT / biodrying plant	Option 3iii: MBT / AD plant	Option 3iv: MBT / RDF plant	Option 3v: WtE plant
		of residues o In Kumanovo, serving Kumanovo, Lipkovo, Staro Nagoricane and TS of Rankovce, with a total capacity of 2.101 t/year, generating 1.050 tn/y of compost and 210 tn/y of residues o In Sveti Nikole Meckuevci – Arbasanci, serving Sveti Nikole and Probistip, with a total capacity of 627 t/year, generating 314 tn/y of compost and 63 tn/y of residues o All residues that will be generated will end up in the landfill				
Waste treatment						
No waste treatment plant	No waste treatment plant	MBT / biostabilization plant in Sveti Nikole, Meckuevci – Arbasanci with capacity of 75.130 tn/y generating 26.295 tn/y of CLO, 257 tn/y of metals and 37.307 tn/y of residues	MBT / biodrying plant in Sveti Nikole, Meckuevci – Arbasanci with capacity of 75.130 tn/y generating 33.308 tn/y of SRF, 257 tn/y of metals and 22.281 tn/y of residues	MBT / AD plant in Sveti Nikole, Meckuevci – Arbasanci with capacity of 75.130 tn/y generating 26.295 tn/y of CLO, 13.674 MWh/y of energy, 257 tn/y of metals and 18.375 tn/y of residues	MBT / RDF plant in Sveti Nikole, Meckuevci – Arbasanci with capacity of 75.130 tn/y generating 15.026 tn/y of SRF, 18.872 tn/y of CLO, 257 tn/y of metals and 29.794 tn/y of residues	WtE plant in Sveti Nikole, Meckuevci – Arbasanci with capacity of 75.130 tn/y generating 33.808 MWh/y of energy, 54.093 MWh/y of heat 257 tn/y of metals and 15.026 tn/y of residues
Waste Disposal						
In existing dumpsites: 107.084 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 90.620 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 47.106 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 32.080 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 28.174 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 39.593 tn/y disposed	New landfill in Sveti Nikole, Meckuevci – Arbasanci: 24.825 tn/y disposed

Considering the option analysis implemented the preferable option will be the Option 3i

✓ **Collection, recycling, treatment with MBT/biostabilization and disposal**

- Option 3i: MBT / biostabilization plant



Waste Management Stage	Selection
Waste collection	❑ Two bins collection system (recyclables and residual waste) ❑ Separate collection of green waste ❑ Green points
Transfer Stations	6 TSs in each one of the 6 LWMFs ❑ Big TSs in the Municipalities of Kumanovo, Stip and Kocani (stationary compactor) ❑ Small TSs in the Municipalities of Berovo, M. Kamenica and Rankovce (press containers)
Treatment of Recyclable waste bin	Material Recovery Facility In Sveti Nikole CWMF
Treatment of Residual waste bin	MBT/biostabilization
Treatment of green waste	6 Composting plants in each one of the 6 LWMFs
Sanitary landfill	1 central in Sveti Nikole CWMF
Non-compliant landfills and dumpsites	Closure and rehabilitation

Steps for revision of the RWMP

The revision of the RWMP will be implemented based on the following strategic planning documents:

- National Waste Management Strategy of the Republic of North Macedonia 2024-2036
- National Waste Management Plan of the Republic of North Macedonia 2021-2031
- National Waste Prevention Plan of the Republic of North Macedonia 2022-2028
- Updated Laws regarding packaging and packaging waste, WEEE, Waste from Batteries and Accumulators and other special waste streams

Steps for revision of the RWMP

- Estimation of current situation (baseline year) regarding generation of waste streams (MSW, Packaging waste, C&D Waste, WEEE, Batteries and Accumulators, Agricultural waste, Medical Waste, Industrial Waste)
- Forecast of generation of waste streams
- For MSW:
  - Population forecast (permanent and seasonal population)
  - Forecast of Waste Generation Rate (by using scenarios)
  - Generated MSW (forecast)
- Waste composition
- Goals and targets according National Waste Management Strategy 2023-2046 and National Waste Management Plan 2021-2031, EU Waste Framework Directive and Circular Economy package
- Goals and options for waste management of different streams
- Setting of alternative options for MSW management
- Preparation of mass balances of alternative options
- Setting of criteria for the comparison of the options
- Quantification of the targets per option (calculation of quantity of packaging waste that should be recycled, calculation of quantity of municipal waste that should be recycled, calculation of the maximum allowable mass of BMW which can be deposited annually in sanitary landfill)
- Calculation of Investment, Operating costs, LUC, Revenues, Affordability
- Comparison through Multi Criteria Analysis and presentation of preferable solution
- Action plan preparation (Priority measures for a period up to 3 years, Short-term measures for a period up to five years and Long-term measures for a period of 6-10 years)

Financial	Technical	Environmental	Social-Institutional
(F1) Investment cost	(T1) Flexibility regarding waste quantity	(E1) Air pollution	(S1) Application of priority of legislation
(F2) Net operational cost	(T2) Flexibility regarding waste quality	(E2) Generation of waste water	(S2) Possibility of creation of new jobs
(F3) Levelised unit cost	(T3) Simplicity	(E3) Generation of solid waste residues	(S3) Degree of fulfillment of targets
	(T4) Energetic exploitation	(E4) Toxicity of residues	(S4) Public acceptance
	(T5) Recovery of materials		(S5) Transition to future conditions

Goals and options for waste management/ Prevention

- **Horizontal measures/activities for specific waste streams (food, paper, plastics, WEEE, etc.)**
  - Promotion of Reuse Centres;
  - Awareness and information campaigns aimed at the general public/special groups of consumers(success stories);
  - Targeted workshops;
  - Issuance of individual specific prevention plans for priority waste streams;
- **Food waste**
  - Support the donation of food for human consumption;
  - Promotion of food waste reduction in the primary sector by improving knowledge about food waste generation;
  - Application of the circular economy principles in the catering industry and related services (e.g. restaurants, hotels, cafes), including canteens (e.g. in schools, universities, hospitals, courts, public services) to reduce food waste;
  - Inform and sensitize households and focus on behavioral change in food consumption and management
- **Paper/Cardboard**
  - Promoting awareness of reducing paper consumption and encouraging its reuse;
- **Packaging Waste**
  - Promoting the ecological design of packaging;
  - Encouraging the reduction of packaging and multi-packaging.
- **WEEE**
  - Promotion of EEE repair centers throughout the territory;
  - Creation of networks of exchange/ sale of used EEE;
  - Promotion of the supply of used EEE in public/ private contracts.

Goals and options for waste management/ Prevention

- **Textile**
  - Encourage collection for reuse;
  - Development of initiatives by handicrafts/ businesses manufacturing or importing clothing for the organization of clothing Repair Centers and Reuse Centers;
  - Promotion and strengthening of reusable textile collection networks in Municipalities.

- **Batteries, tires, waste oils, ELVs**
  - Promotion for separation in cooperation with PROs e.g., separate bins, cooperation with companies for the return of used accumulators;
  - Research for reuse/ regeneration (waste oils);
  - Collection of this waste also from garages owned by public authorities of the Region, such as the Municipalities;
  - Prohibition of landfilling waste car/ portable accumulators and tires

Goals and options for waste management/ Re-use, Sorting at the Source, Recycling, Recovery, Disposal of MSW

➢ Measures for Re-use and Sorting at the Source

- Development of a Sorting at Source network for bio-waste (green waste as a first step and then kitchen waste).
- Promotion of home composting in rural areas.
- Establishing a separate collection of individual streams of recyclable materials (e.g. Green Points, Collection bins).
- Organization of targeted actions for the separate collection of recyclables.
- Development of Sorting at the Source of bulky waste for the purpose of their reuse and recycling.
- Development of Sorting at the Source of Textile Waste.
- Development of Sorting at Source of household Hazardous Waste.
- Implementation of uniform color and type of bins for collection of different waste streams.
- Establishment of infrastructures for reuse and preparation for reuse (Reuse Centers, etc.).
- Organization of a separate management system for edible fats and oils waste.

➢ Infrastructures to enhance recycling, recovery and disposal

- Material Recovery Facilities
- Mechanical Biological Treatment Plants for mixed municipal waste
- Composting plants for garden waste
- Sanitary landfill
- Transfer Stations

Goals and options for waste management/ Other waste streams

- **C&D Waste**
  - Improvements in collection by involvement the private sector
  - Establishment of inert waste landfill(s) which will include necessary equipment for the pre-treatment and sorting of the waste.
  - Sorting should be done for the materials wood, mineral fractions (concrete, bricks, tiles and ceramics, stones), metal, plastic, glass and gypsum
  - Separation of Asbestos waste in order to be disposed separately (Drisla landfill)
- **WEEE**
  - Reinforcement of separate collection of WEEE;
  - Construction of Reuse Centers.
- **Medical Waste**
  - Improvement of institutional structure for better monitoring
- **Industrial Waste**
  - Development of management programs
  - Awareness campaigns
  - Promotion of cooperation and synergy for industries, as the waste of one industry can be a raw material for another
  - Implementation of necessary industrial waste management infrastructures (e.g., utilization of existing facilities, new facilities, landfill)

Steps for Updating the RWMP
Alternative Scenarios

	Scenario 1 (1 bin)			Scenario 2 (2 bins) Mixed + Recyclables					Scenario 3 (3 bins) Mixed + Recyclables + Biowaste			
	1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d
Waste Collection	One Bin collection system			Two Bin collection system (Recyclable Waste Bin + Mixed Waste Bin)					Three Bin collection system (Recyclable Waste Bin + Organic Waste Bin + Mixed Waste Bin)			
Green Points	√	√	√	√	√	√	√	√	√	√	√	√
Home Composting	√	√	-	√	√	√	√	√	√	√	√	√
Mixed Bin Treatment	MBT (Biostabilization)	MBT with AD and AC for residues	Incineration	Disposal to landfill	MBT (Biodrying)	MBT (Biostabilization)	MBT with AD and AC for residues	Incineration	Disposal to Landfill	MBT (Biostabilization)	MBT (Biodrying)	MBT with AD and AC for residues
Recyclable waste bin treatment	-	-	-	MRF	MRF	MRF	MRF	MRF	MRF	MRF	MRF	MRF
Organic waste bin treatment	-	-	-	-	-	-	-	-	AC	AC	AC	AC
Green waste treatment	AC	AC	Incineration	AC	AC	AC	AC	AC	AC	AC	AC	AC
Landfill	√	√	√	√	√	√	√	√	√	√	√	√

- MBT biodrying produces SRF;
- MBT biostabilization produces CLO
- MBT AD produces energy (through biogas utilization)
- Incineration produces energy

Steps for updating the RWMP

LoPPW (2021), diversion of BMW from landfilling and recycling

2021	2030	2035
55%-80%	Minimum 65%	Minimum 70%

Year	Paper and Cardboard	Glass	Wood	Metal	Plastic (only recyclable plastic waste)
2021	70%	40%	20%	50% ferrous metals 10% aluminum	25%
2025	70%	55%	20%	60% ferrous metals 30% aluminum	40%
2030	75%	70%	25%	70% ferrous metals 50% aluminum	50%
2035	85%	75%	30%	80% ferrous metals 60% aluminum	55%

Year	Quantity of BMW that is allowed to be disposed on Landfill on the whole territory (t)	Reduction of the quantity of BMW landfilled, expressed as a percentage reduction of the BMW generated in 1995
1995 (Reference year)	305,000	
2019-2026	228,800	25%
2019-2031	153,000	50%
2019-2034	106,800	65%

Year	Recycling targets for Municipal Waste in Republic of North Macedonia
2025	25%
2035	45%
2045	65%

Strategic Environmental Assessment (SEA)

Strategic environmental assessment (SEA) is a systematic & anticipatory process, undertaken to analyze environmental effects of proposed plans, programmes & other strategic actions and to integrate findings into decision making.

EU SEA Directive defines plans and programs that need to undergo SEA

SEA is **mandatory** for plans/programmes which are:

- prepared for agriculture, forestry, fisheries, energy, industry, transport, **waste**/ water **management,** telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in the EIA Directive.

Strategic Environmental Assessment (SEA)

The procedure for SEA is prescribed in the Law on environment ("Official Gazette" no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 44/15), chapter 10 – Assessment of the environmental impacts from strategies, plans and programs.
Other by laws that are regulating SEA procedure in detail are:

- ❑ Decree on the strategies and programs, including amendments to such strategies, plans and programs for which the procedure for assessment of their impact on the environment and human health is obligatory ("Official Gazette " no. 153/07 and 45/11) ;
- ❑ Decree on the content of the SEA Report ("Official Gazette " no. 153/07) ;
- ❑Decree on the criteria on the basis of which the decisions are made on whether certain planning documents could have significant impact on the environment and human health ("Official Gazette " no. 144/07) ;
- ❑ Decree on public participation during the preparation of regulations and other legislation, as well as plans and programs relating to the environment ("Official Gazette " no. 147/08 and 45/11);
- ❑ Rulebook on the form, content and template of the Decision on implementation or non-implementation of SEA and the templates on the need for implementation or non-implementation of SEA ("Official Gazette" no. 122/11);
- ❑ Rulebook for implementation of trans boundary consultations ("Official Gazette" no. 110/10).

Strategic Environmental Assessment (SEA)

Strategic environmental assessment (SEA) procedure

SEA Screening

SEA Scoping

Environmental assessment

Objectives, targets, indicators

Assessment of scenarios

Public consultations

Initial workshops, consultations

Decision to carry out SEA procedure issued by MoEPP or the authority which is adopting the plan

Draft SEA report

Publication of draft SEA report

Public consultations

Final SEA report

Public consultation report

Acceptance and publication of final documents

Monitoring

Contents of SEA

- Chapter 1: Background
- Chapter 2: Strategic Environmental Assessment (Objectives of the SEA, Benefit for the implementation of SEA, report development methodology, Legal framework, Steps of SEA procedure, Integration between the implementation of RWMP and SEA procedure)
- Chapter 3: Brief overview of the content, main objectives and the links with other relevant plans and planning documents
- Chapter 4: Situation of environment in the study area
- Chapter 5: Environmental characteristics in the absence of implementation of RWMP
- Chapter 6: Areas of special importance for the environment from the aspect of protection of wild birds and habitats
- Chapter 7: Environmental protection objectives established on national or international level
- Chapter 8: Analysis of alternatives
- Chapter 9: Likely significant impacts on the environment
- Chapter 10: Mitigation Measures for reduction of impacts on the environment
- Chapter 11: Public participation
- Chapter 12: Monitoring plan in accordance with legal obligations
- Chapter 13: Conclusions and recommendations
- Chapter 14: Non-technical summary

ANNEX 1 - Decision for conducting SEA
ANNEX 2 - Opinion from the relevant authorities
ANNEX 3 - List of non-compliant landfills and dumpsites in regions
Etc.

Analysis of alternatives

SEA objectives	Scenario S3b		Scenario S2		Scenario S1a		Description	The best scenario
Improvement of living conditions of the population	*Socio economic aspect*	+	*Socio economic aspect*	+/-	*Socio economic aspect*	+/-	*S3b can cause the best socio economic impact*	*S3b*
	Environmental impact and human health	+/0/-	*Environmental impact and human health:*	–	*Environmental impact and human health*	–	*S3b can cause minor negative impact than the other scenarios*	*S3b*
Protection and promotion of biological diversity and natural heritage	All options	-/0	All options	-/0	All options	-/0	*All scenarios can cause the same impacts*	*All scenarios*
Protection and improvement of the water quality	Mechanical and recycling facilities (clean MRF)	0	Treatment of Mixed Waste in dirty MRF plant	–	Treatment of Mixed Waste in MBT plant (dirty MRF)	–	*S3b can cause minor negative impact than the other scenarios*	*S3b*
	MBS and Windrow composting - open composting plant	-/0	Aerobic composting (organic waste bin and green waste)	-/0	Aerobic composting (MBT) and Windrow composting - open composting	-/0		
Protection and improvement of the soil quality, quantity and function	Mechanical and recycling facilities (MRF)	0	Aerobic composting (organic waste bin and green waste)	-/0	Aerobic composting (MBT)	-/0	*S3b can cause minor negative impact than the other scenarios*	*S3b*
					Windrow composting - open composting	-/0		
	Mechanical and biological stabilization (MBS)	-/0						
	Windrow composting - open composting	-/0						
Improvement of the quality of air and reduction of greenhouse gas emissions	Air pollution from all options Clean MRF	-/0	Air pollution from all options	-	Air pollution from all options	-	*All scenarios can cause the same impacts, but clean MRF can cause minor impact*	*S3b*

Impacts on the Environment

SEA topic	Collection system				Green points				Transfer station				Transport			
	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope
Population and human health		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L/R/N
Biological diversity and natural heritage		NA	NA	NA		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L/R/N
Water		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L/R/N
Soil		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L/R/N
Air and climate changes		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L/R/N
Material assets		D/C/S	L	L		D/C/S	L	L		D/I/C/S	L	L		D/C/S	L	L/R/N
Cultural heritage		NA	NA	NA		NA	NA	NA		NA	NA	NA		NA	NA	NA
Landscape		D/C/S	L	L		D/C/S	L	L		D/I/C/S	L	L		D/C/S	L	L/R/N

SEA topic	Material Recovery Facility (MRF)				Mechanical and biological stabilization (MBS)				Windrow composting-open composting				Home composting			
	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope	Impact and intensity	Type of impact	Timescale	Scope
Population and human health		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		NA	NA	NA
Biological diversity and natural heritage		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		NA	NA	NA
Water		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		NA	NA	NA
Soil		D/I/C/S	L	L		D/I/C/S	L	L/R/N		D/I/C/S	L	L		NA	NA	NA
Air and climate changes		D/I/C/S	L	L		D/I/C/S	L	L		D/I/C/S	L	L		D	L	L
Material assets		D/C/S	L	L		D/C/S	L	L		D/C/S	L	L		NA	NA	NA
Cultural heritage		NA	NA	NA		NA	NA	NA		NA	NA	NA		NA	NA	NA
Landscape		D/C/S	L	L		D/C/S	L	L		D/C/S	L	L		NA	NA	NA

Impact and intensity		Type of impact		Timescale		Scope	
Major positive impact		Direct	D	Short	S	Local	L
Moderate positive impact		Indirect	I	Medium	M	Regional	R
Minor positive impact		Cumulative	C	Long	L	National	N
Negligible/Neutral impact		Synergetic	S	Not applicable	NA	Trans boundary	T
No impact (NA –not applicable)		Not applicable	NA			Not applicable	NA
Minor negative impact							
Moderate negative impact							
Major negative impact							
Unclassified impact[x1]	?						

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Mitigation Measures

Mitigation measures/Recipients

A) Population and human health
B) Biodiversity and natural herritage
C) Water quality
D) Soil quality
E) Air and climate changes
F) Material assets
G) Cultural heritage
H) Landscape

SEA Objectives	Mitigation Measures
Improvement of living conditions of the population	
Protection and promotion of biodiversity and natural heritage	
Protection and improvement of the water quality	
Protection and improvement of the soil quality, quantity and function	
Improvement of the quality of air and reduction of greenhouse gas emissions	
Protection and improvement of material Assets	
Protection and promotion of cultural heritage	
Preservation of landscape characteristics and protection of landscape everywhere and especially in the designated area	

Monitoring Plan

SEA Objectives	Subject	Monitoring	SEA Indicators	Sources of verification
Improvement of living conditions of the population				
Protection and promotion of biodiversity and natural heritage				
Protection and improvement of the water quality				
Protection and improvement of the soil quality, quantity and function				
Improvement of the quality of air and reduction of greenhouse gas emissions				
Protection and improvement of material Assets				
Protection and promotion of cultural heritage				
Preservation of landscape characteristics and protection of landscape everywhere and especially in the designated area				

To summarize….

Revision of RWMPs

- Analysis of current situation in waste management based on assessment report
- Analysis of amended laws, regulations and policy documents considering waste management
- Gap analysis (analysis of weaknesses)
- Forecasting of Waste generation for several waste streams (MSW, C&D waste, Packaging waste, etc.)
- Forecasting of Waste collection considering NWMS and NWMP
- Setting of alternative scenarios for waste management considering Circular economy
- Quantification of amended national targets (according NWMS, NWMP, etc.)
- Preparation of mass balances for all the alternative scenarios
- Calculation of Investment, Operating costs, Revenues, LUC, affordability
- Calculation of GHG emissions for all scenarios
- Comparison through MCA method
- Recommended scenario
- Preparation of action plan for the recommended scenario (Priority measures for a period up to 3 years, Short-term measures for a period up to five years and Long-term measures for a period of 6-10 years)
- Description of the procedures for the project implementation
- Conclusion

To summarize....

Objectives and targets	Source	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	…2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Improvement of collection and source separation efficiency and transportation																										
- Mixed municipal waste - Collection efficiency	NWMP 2009-2015				⇨	90%																				
- MSW collection	N Strategy 2024-2036																⇨		95%		100%					
- Households served	N Strategy 2024-2036																⇨		97%		100%					
- Segregation of hazardous and non-hazardous waste fraction (manufacturing/ service sector)	NWMP 2009-2015	100 %																								
Segregation efficiency																										
- Separate waste collection – Hazardous waste	N Strategy 2024-2036																				⇨	100%				
- Collection centers (in regions)	N Strategy 2024-2036																⇨		6/8							
- Separate storage and collection of waste – Household waste (areas)	N Strategy 2024-2036																								⇨	50% urban 25% rural
- Transport and transfer of waste	N Strategy 2024-2036																								⇨	100%
Landfill of waste/diversion																										
- landfill of MSW on temporary facilities (after conditioning) - on the collected MSW	NWMP 2009-2015				⇨	100 %																				
- landfill of MSW on facility compliant with EU standards - on the collected MSW	NWMP 2009-2015				⇨	50%																				
- Waste disposal	N Strategy 2024-2036																⇨		6/8							
- Waste disposal MW (waste that is not recovered)	N Strategy 2024-2036																				⇨	100%				
- Waste disposal – Other waste	N Strategy 2024-2036																									
- reduction of biodegradable waste disposed on landfills expressed as a percentage reduction of the BMW generated in 1995	NWMP& Rules (OG No.108/2009																									
2011-2017								⇨	25%																	
2011-2020											⇨	50%														
2011-2027																⇨	65%									
2019-2026															⇨	25%										
2019-2032																				⇨	50%					
2019-2034																							⇨	65%		

To summarize....

Objectives and targets	Source	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	...2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Packaging and packaging waste																										
Treatment / Recovery	LoPPW 2009										⇨	60%														
Treatment / Recovery	LoPPW 2021											⇨	60%													
Recycling: (minimum 55% - maximum 80%)	LoPPW 2009										⇨	2020														
Recycling: (minimum 55% - maximum 80%)	LoPPW 2021											⇨	2021													
-plastic	LoPPW 2009								⇨	22.5 %																
- plastics	LoPPW 2021											⇨	25%	⇨	40%				⇨	50%				⇨	55%	
- glass	LoPPW 2009										⇨	60%														
- glass	LoPPW 2021											⇨	40%	⇨	55%				⇨	70%				⇨	75%	
- paper and cardboard	LoPPW 2009											60%														
- paper and cardboard	LoPPW 2021											⇨	70%	⇨	70%				⇨	75%				⇨	85%	
- metals	LoPPW 2009											50%														
- Fe metals	LoPPW 2021											⇨	50%	⇨	60%				⇨	70%				⇨	80%	
- Al metals	LoPPW 2021											⇨	10%	⇨	30%				⇨	50%				⇨	60%	
- wood	LoPPW 2009											15%														
- wood	LoPPW 2021											⇨	20%	⇨	20%				⇨	25%				⇨	30%	
Batteries/accumulators																										
Collection portable batteries	LoBAWBA						⇨	25%			⇨	45%														
Collection portable batteries	LoBAWBA 2021										⇨	20%	25%	40%	45%	50%	55%									

To summarize….

Objectives and targets	Source	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	…2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Waste electrical and electronic equipment																										
Collection: >4kg/capita/year	LoEEEWEEE										⇨	2020														
Cat. 1 and 10: recovery and prep. for reuse/recycling	LoEEEWEEE											80% 75%														
Cat. 3 and 4: recovery and prep. for reuse/recycling	LoEEEWEEE											75% 65%														
Cat. 2,5,6,7,9: recovery and prep. for reuse/recycling	LoEEEWEEE											70% 50%														
Gas discharge lamps - at least .. reuse and recycling	LoEEEWEEE											80%														
Collection:	LoEEEWEEE 2021													35%	40%	45%	55%	65%								
Cat. 1 3, 4: recovery and prep. for reuse/recycling	LoEEEWEEE 2021																	85% 80%								
Cat. 2: recovery and prep. for reuse/recycling	LoEEEWEEE 2021																	80% 70%								
Cat. 5, 6: recovery and prep. for reuse/recycling	LoEEEWEEE 2021																	75% 55%								
Lamps - recycled	LoEEEWEEE 2021																	80%								
Construction and demolition waste																										
Collected: Recovered/ recycled: Disposal:	NWMP 2009-2015										⇨	30% 10% 90%														
preparing for re-use, recycling and other material recovery	NWMP 2021-2031																			⇨	70%					
Used tires																										
Collection efficiency: Processing:	NWMP 2009-2015				⇨	90% 100 %																				
Collection efficiency: Processing:	Law on additional streams 216/21													⇨	40%	45%	50%	55%	60%	65%	70% 98%					
Textiles																										
Collection efficiency: Reuse and Processing:	Law on additional streams 216/21													⇨	15%	20%	25%	30%	35%	40%	45% 98%					
End of life vehicles																										
Collection:	NWMP 2009-2015				⇨	90%																				
Recovery or reuse:											⇨	70%														
Collection:	Law on additional streams 216/21													⇨	15%	20%	25%	30%	35%	40%	45%					
Recovery or reuse:																				⇨	98%					

Ви благодарам!!!