The Draft Ordinance on Separate Collection of Biowaste

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Article 11 & 22
Waste Framework Directive (98/2008)

- Art 11: recycling targets for year 2020
  - Min 50% of paper+plastics+glass+metalls from MSW (households and household similar waste)
  - Min 70% of C&D waste (non hazardous)
- Art 22: Organic Waste
  - Encourage separate collection and recycling
  - Recover "safe materials for environment" → compost

Implementing Directive 99/31
and art. 11 + 22 of WFD

- **Bans on biodegradables to landfills (e.g. BR, US)**
  - Most stringent provisions
  - May lack flexibility
  - Requires codified thresholds for acceptance at landfills
- **Obligation on separate collection**
  - On Municipalities (e.g. NL) – may be deceived with poor performing / low participation systems
  - On households (e.g. AT) – very effective, if stringent control possible
  - May require phased implementation
- **Targets for sep collection / composting / recycling**
  - Specific biowaste processing targets (e.g. Sweden)
  - General recycling + composting targets (IT & UK)
  - Result-oriented + flexible

Options to mandate separate collection of biowaste

1. BANS ON BIODEGRADABLES TO LANDFILLS

Benefits	Downsides:
▪ Certainly, this is the most stringent provision, hence it potentially represents the most powerful driver	▪ It certainly lacks flexibility and leaves no room for a phased introduction of strategies depending on the level of difficulty in implementation for different options for diversion ▪ the emphasis is on diversion from landfills, which may be equally achieved through e.g. incineration, hence this is not certainly a direct driver for separate collection (although it tends to foster its adoption) ▪ no option may actually ensure 100% diversion; hence, this approach concurrently requires codified thresholds for acceptance at landfills

Options to mandate separate collection of biowaste

2. OBLIGATION ON SEPARATE COLLECTION

Benefits	Downsides:
▪ An obligation on households may be very effective, if stringent control is possible.	▪ An obligation addressed to Municipalities or other Local Authorities is not result-oriented, and may be deceived with poor performing / low participation systems (e.g. bring schemes for food waste) ▪ It may require phased implementation in order to consider less suited areas and housing/societal conditions

An obligation on separate collection is addressed to Municipalities (e.g. NL; in DE by 2015) or to households (e.g. AT, with exemptions for those households participating in home composting programmes; recently, a similar approach has been adopted in IE)

The concept for Bulgaria– specific needs

- The **need for flexibility**, in a Country where the system must be implemented starting from the beginning
- The **need for a phased implementation in all regions/areas across Bulgaria**, so that the system be made fair and balanced in costs and operational efforts for all communities (pilot schemes might rather be implemented in many areas, instead of just concentrating efforts only in one specific Region)
- The **need to give drivers also to public and private investors**, and the processing industry, so that bankability of initiatives be ensured (preference for "result-oriented" approaches)

→ All considered, the approach that best mirrors such needs and underlying conditions seems to be the one based on targets,

Options to mandate separate collection of biowaste

3. TARGETS FOR SEPARATE COLLECTION / COMPOSTING / RECYCLING

Benefits	Downsides:
▪ Targets represent a result-oriented approach: local planners and the processing industry have a consistent reference for calculating capacities and related investments in time ▪ It is a flexible approach, since phase targets drive implementation in most suited areas and conditions, first, to move at a later stage towards more difficult ones.	▪ Targets require establishing methods to ascertain fulfilment (although this is in line with many provisions stipulated by various EU Directives, as e.g. the reuse+recycling targets of the Waste Framework Directive, the packaging recovery targets of the Packaging Directive)

Examples: Targets may be expressed in terms of
- separate collection rates to be achieved (e.g. IT, UK)
- specific biowaste processing targets (e.g. SE)
- General recycling + composting targets

Ordinance on the separate collection of biowaste

Chapter I - GENERAL PROVISIONS

Chapter II - REQUIREMENTS FOR THE SYSTEMS OF SEPARATE COLLECTION OF BIOWASTE

Chapter III - OBLIGATIONS OF LOCAL GOVERNMENT AND LOCAL AUTORITIES

Chapter IV - INFORMATION
- Section I - Biowaste Recovery
- Section II - Diversion Targets
- Section III – Recycling Targets

Chapter V - CALCULATING AND PROCEDURE FOR PROVING THE ACHIEVEMENTS OF THE TARGETS ON SEPARATE COLLECTION an recovery OF MUNICIPAL OF BIOWASTE

Chapter VI - CALCULATING AND PROCEDURE FOR PROVING THE ACHIEVEMENTS OF THE TARGETS ON DIVERSION OF BIODEGRADABLE WASTE FROM LANDFILLS

Chapter VII - CALCULATING AND PROCEDURE FOR PROVING THE ACHIEVEMENTS OF THE TARGETS ON RECYCLING AND PREPARATION FOR REUSE

Biowaste ordinance: main goals

1. Ordinance defines requirements for separate collection
2. Ordinance sets targets and obligations for separate collection and recycling of biowaste
3. Ordinance defines a methodology for calculation and reporting on
   1. recycling targets for source separated biowaste
   2. diversion targets for biodegradable waste from landfills
   3. Recycling targets according to art. 11 WFD

Subjects addressed by the ordinance:

- **Households and other "waste-producers"**
  - that use Municipal Collection services (i.e. MSW)
- **Municipalities**
  - responsible for municipal waste collection
- **Public and private entities**
  - producing garden and park waste
- **Commercial entities**
  - **not severed** by municipal collection services

Not-addressed by the ordinance:

- natural non-hazardous materials from agriculture or forestry as set in Art. 2 para.2 item 6 of Waste Management Act incl. manure, straw, crop residues or waste from processing and storage of agricultural products used in agriculture;
- sewage sludge from municipal and industrial waste water treatment plants

2 types of biowaste

Municipal waste		Industrial waste
Biowaste from sep. collection of MSW • Households • Restaurants, canteens • Vegetable and retailer markets • commercial entities producing household-like organic waste and served by the municipal collection scheme	Garden & Park waste from administration bodies maintaining public garden	Biowaste from industrial entities (not managed as municipal waste) • horticultural or landscape gardening businesses • companies processing, managing or storing agricultural products and fish

Provisions for separate collection

- Biowaste shall be **collected separately** from other MSW at the source of origin (i.e. collected from the waste producer)
- **Liners, bags** and 1-way-tool used for separate collection should comply to EU standard EN-13432 (i.e. compostable)
- **Mechanical sorting** of biowaste is NOT separate collection
- **Impurities** inside biowaste must be less than 10% in weight

Sep. Collection and recyling targets for biowaste (from municipal origin)

25% of biowaste by year 2016

50% of biowaste by year 2020

70% of biowaste by year 2025

- Relative to the quantity of municipal biowaste as generated in year 2014 (base-line year)
- recycling = composting or anerobic digestion

Subjects addressed by the ordinance:

- **Municipalities**
  → responsible for municipal waste collection
- **Public and private entities** producing garden and park waste
- **Commercial entities** processing agricultural products

Sep. Collection and recyling targets for biowaste (from municipal origin)

- Targets to be fulfilled by each **Waste Management Region** (WMR)
- **Municipalities** shall provide separate collection within it's territory according to the duties assigned by WMR to **each municipality**
- **Mayors** / WMR shall provide biological processing of biowaste by means of composting or anaerobic digestion (self-sufficiency)
- **Each WMR** is free to decide which type of separate collection scheme to apply

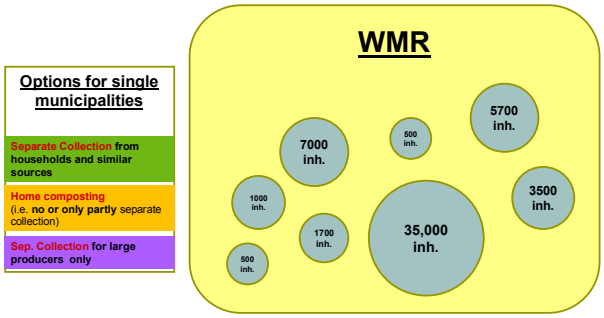
Obligations of local authorities

- **The Mayors** of the single municipalities included in a WMR **jointly ensure** the provision conditions for performing recovery operations of separately collected bio-waste
- Municipalities of a WMA can develop a **joint regional waste management program**.
- **Each Municipality** (i.e. mayor) **shall include in their waste management programme a plan for separate collection** of biowaste including at least:
  1. phased implementation plan for introduction of separate collection of biowaste from households and similar institutions
  2. program for the phased implementation of separate collection of biowaste from other sources than municipal
  3. plan for the location and installation of biowaste treatment plants in the territory of WMR

Obligations of local authorities

- Each Municipality (i.e. mayor) shall develop a **programme**
  - **encouraging on-site composting = < 10 m³ / year**
  - **raising awareness** and education in home composting
- A Management plan shall be carried out for each municipality within the WMR taking into account the specific conditions of urban, semi-urban and rural settlements types.

Biowaste management in waste management regions



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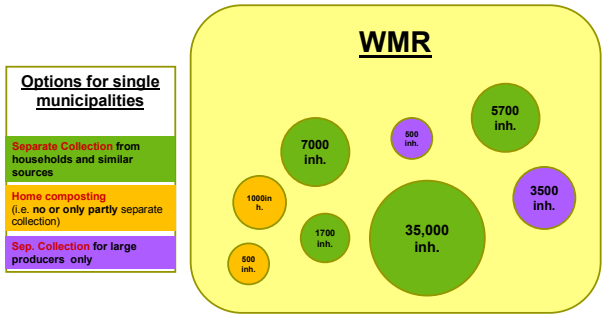
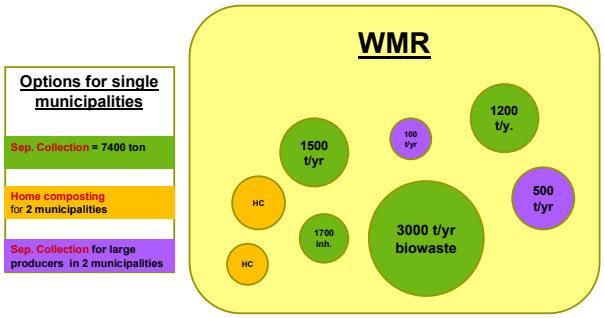


Biowaste management: targets for single municipalities:



Subjects addressed by the ordinance:

- **Waste Management Regions & Municipalities**
  → responsible for municipal waste collection
- **Public and private entities** producing garden and park waste
- **Commercial entities** processing agricultural products

Sep. Collection and recyling obligations for garden & park waste

- Waste from maintenance of public parks under municipal responsibility
- 100% of garden & park waste shall be collected separately
- recycling = composting or anaerobic digestion

Subjects addressed by the ordinance:

- **Waste Management Regions & Municipalities**
  → responsible for municipal waste collection
- **Public and private entities** producing garden and park waste
- **Commercial entities** processing agricultural products

Entities generating biowaste, being not covered by the municipal waste collection system"

- horticultural or landscape gardening businesses, producing garden and park waste;
- entities processing, managing or storing agricultural products and fish;
- others persons forming similar to organic wastes
  - Dairy / cheese processing / tabacco industry / oil seeds processing …etc. … give examples

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Entities generating biowaste, being not covered by the municipal waste collection system

- 100% organic waste shall be treated and recycled within the entity for its own use

OR

- 100% of biowaste to be separately collected and delivered to an authorised composting or biogas plant (no municipal collection)

OR

- The company has a contract with the Municipal collection scheme for biowaste

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Reporting obligations: biowaste recovery

Who	To whom	Information
Mayors of municipalities	Council and the General Assembly of the RegWMA	implementation of biowaste sep. collection and home composting campaigns
RegWMA	ExEA	• List of Municipalities responsible for achieving waste-management targets • Residual waste analysis • Biowaste generation 2014
Composting plant and persons recovering biowaste	ExEA	Biowaste Recovery (art. 48 para.1 of WMA)

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Reporting obligations: diversion target

Who	To whom	Information
RegWMA	EEA	• Calculation of diversion targets for reducing biodegradable waste from landfills • Residual waste analysis
ExEA	RegWMA	• Assessment of data
ExEA	MoE	assessment report on the fulfillment objectives of the targets of the National WMA Art 31, para1 point 2
MoE (Commission)		• report on the achievement of the targets of biowaste reduction • proposes list of municipalities that meet the objectives of reduction or exemption from payment of allowances for landfilling

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Reporting obligations: calculation methods

- CALCULATING AND PROCEDURE FOR PROVING THE ACHIEVEMENTS OF THE TARGETS ON SEPARATE COLLECTION an recovery OF MUNICIPAL OF BIOWASTE
- CALCULATING AND PROCEDURE FOR PROVING THE ACHIEVEMENTS OF THE TARGETS ON DIVERSION OF BIODEGRADABLE WASTE FROM LANDFILLS

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separately collected and recovered municipal biowaste

$$R_0 \equiv \frac{BW(N;SC)}{BW(0;G)} * 100$$

R_0 = Percentage of separately collected and recovered municipal biowaste relative to the collectable potential of generated municipal biowaste in the baseline year 2014

- BW(N;SC) – separately collected and recovered municipal biowaste in the reporting year in TONS;
- BW(0;G) – collectable potential of generated municipal biowaste in the baseline year 2014 in TONS

Percentage of municipal biodegradable waste diverted from landfilling

$$V_0 \equiv \frac{BMW(N;L)}{BMW(0;L)} * 100$$

V_0 = Percentage of municipal biodegradable waste diverted from landfilling relative to baseline year 2014.

- BMW(N;L) – is the total amount municipal biodegradable waste landfilled in reporting year in TONS;
- BMW(0;L) – is the total amount municipal biodegradable waste landfilled in baseline year 2014 in TONS

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Management of MSW in Bulgarian municipalities - Diversion targets for WFD

Basic data for BMW reporting

Waste Management Region	Name	text
Municipality (if applicable)	Name	text
Reporting year	2011	year
Inhabitants of Waste Management Region (or municipality if applicable) for reporting year	173.882	N

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Baseline data for BMW generation

Baseline year for BMW	2009	year
Inhabitants of WMR for baseline year	173.882	N
MSW generated in baseline year	55.000	kg
MSW landfilled in baseline year	45.000	kg
BMW generated in baseline year	25.300	kg
BMW landfilled in baseline year	21.375	kg

How were these quantitiesassessed? Please describe shortely:
Test, test

Municipal waste generated - historical data		
2009	320	kg/INH*yr.
2010	350	kg/INH*yr.
2011	365	kg/INH*yr.

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Year			2011			
Inhabitants			173.882			
Data	Waste code		Total Quantity [TONS]	BIODEGRADABLE fraction [%]	Included BIODEGRADABLE Waste [TONS]	
Mixed Residual Solid Wastes: total generation			45.000	47,5%	21.375	79%
Separate collection and recovery of municipal BIOWASTE - FOOD/GARDEN/PARK (100% accounted); additional specification:			3.000	65%	1.950	5%
Separate collection of and recovery PAPER and CARDBOARD (100% accounted); additional specification:			2.000	90%	1.800	4%
Separate collection and recovery of other BMW: WOOD (100% accounted); additional specification:			1.000	80%	800	2%
Separate collection and recovery of other BMW: TEXTILES (20% accounted); additional specification:			1.000	20%	200	2%
Separate collection and recovery of OTHER BMW (25% accountanbl)			1.000	25%	250	2%
Separate collection of other recyclables: plastics metals, glass etc.			4.000	0%	0	7%
Municipal Solid Waste: total generation			57.000	46,3%	26.375	100%
MSW and BMW diversion due to separate collection and recycling			12.000	41,7%	5.000	27%
Residual waste delivered/input to MBT plant			45.000	47,5%	21.375	100%
Residual waste delivered/input to MBT plant			30.000	47,5%	14.250	67%
Residual waste delivered directly /input to incineration			0	47,5%	0	0%
Residual waste delivered directly to landfill			15.000	47,5%	7.122	33%
CONTROL CALCULATION of the residual waste quantity for further treatment = this must be identical with 'I' = 'Residual waste - total generation'			45.000		21.375	
Output from MBT treatment after mechanical separation delivered to landfill - non-organic fractions(i.e. plastics inerts) + 28% not accounted as biodegradable			7.900	28%	2.100	17%
Output from MBT treatment delivered to landfill - stabilized organic fractions - 16% biodegeadable or own investigation			11.250	16%	1.800	25%
Output from MBT treatment delivered to incineration			0	0%	0	0%
Output from MBT treatment delivered to recycling			0	0%	0	0%
total MSW resectively BMW landfilled			33.750		11.025	75%
			total MSW:		BMW:	
Baseline year			2009		2009	
MSW and BMW total generation	baseline year	2009	55.000		25.300	
MSW and BMW landfilled	baseline year	2009	45.000		21.375	

Diversion target achievement in reporting year -->		2011	2011
MSW and BMW diverted from landfilling relative to baseline year	TONS	11.250	10.350
Diversion of landfilled MSW respectively BMW achieved relative to baseline year	%	25%	48%
MSW respectively BMW diverted from landfilling from total MSW respectively BMW generated in reporting year	TONS	23.250	14.350
MSW respectively BMW diverted from landfilling - from total BMW generated in reporting year	%	41%	57%

Thanks for your attention

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