

# Municipal Solid Waste Update 2014

## BULGARIA

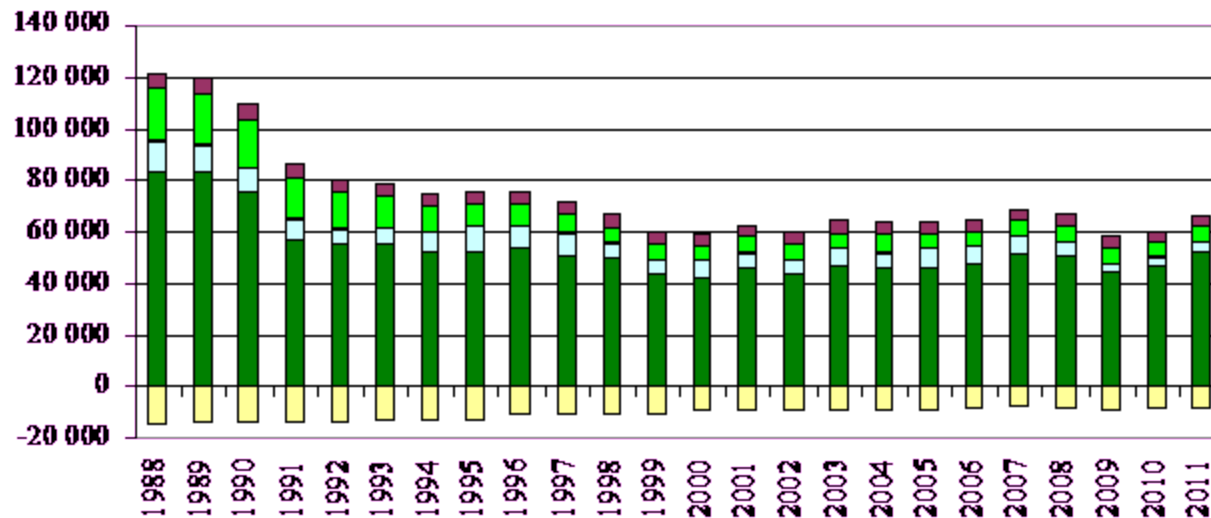
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**MINISTRY OF ENVIRONMENT AND WATER OF BULGARIA**  
**GMI Municipal Solid Waste Subcommittee Meeting**  
**Florianopolis, Brazil, 12 March 2014**



# COUNTRY BACKGROUND AND OVERVIEW OF METHANE EMISSIONS

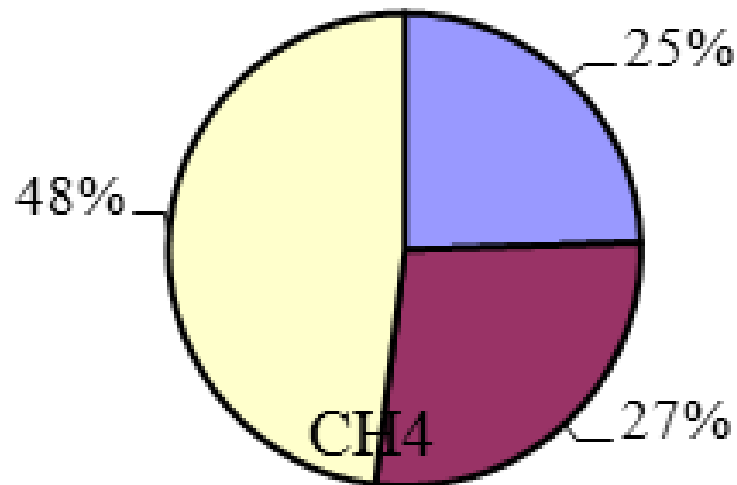
Share of GHG emissions in Bulgaria by source 1998-2011, based on the annual national reports on the inventory of GHGs.



- Отпадъци
- Земеползване, изменение в земеползването и горско стопанство
- Селско стопанство
- Разтворители
- Индустриални процеси
- Енергетика

# COUNTRY BACKGROUND AND OVERVIEW OF METHANE EMISSIONS

Share of methane emissions from landfills compared to methane emissions from all other sources in Bulgaria, 2011.



- Енергетика
- Селско стопанство
- Отпадъци

# DRIVERS AND CHALLENGES

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Directive 2008/98/EC on waste:

- ❑ Targets for recycling of 50 % of generated municipal waste until 2020

Directive 1999/31/EC on landfills:

- ❑ diversion of 65 % of biodegradable waste going to landfills until 2020

# NATIONAL LEGISLATIVE MEASURES

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## Waste Management Act and secondary legislation

- ❑ Implementation of EU waste management hierarchy
- ❑ Implementation of economical instruments to encourage re-use and waste recycling (*landfill tax, legislative relaxations, incentives*)
- ❑ obligations: pre-treatment of all waste before landfilling and recovery of the methane, generated on the landfills

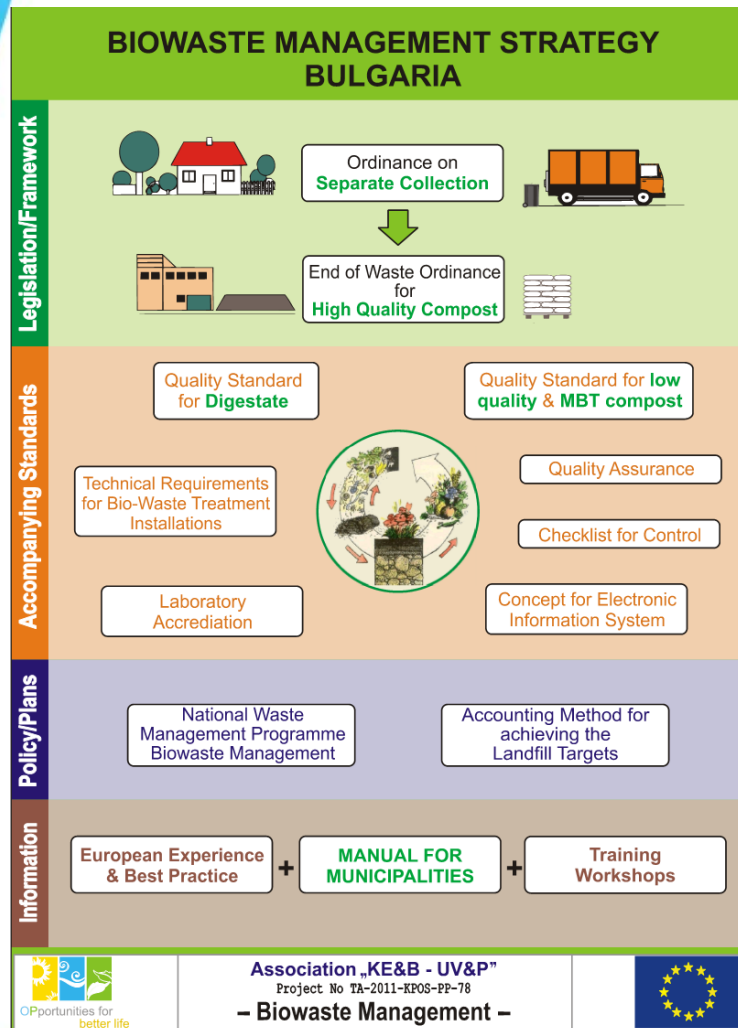
# NATIONAL LEGISLATIVE MEASURES

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## Obligations and responsibilities of local authorities and business

- ❑ SEPARATE COLLECTION and recycling of household biodegradable waste,
  - 100% sep. collection and recycling of green waste
  - 70% sep. collection and recycling of biowaste
- ❑ RECYCLING of other biodegradable biowaste
  - paper and cardboard – already 99% achieved

# Nationally Appropriate Mitigation Action (NAMA) Biowaste Management Project



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
COHESION FUND



OPERATIONAL PROGRAMME  
**ENVIRONMENT 2007 – 2013**





# Nationally Appropriate Mitigation Action (NAMA)

- **Stage I** – Model & Action Plan for a Sustainable Biowaste Strategy
- **Stage II** – Ordinances & Technical Standards
- **Stage III and IV** – Technical Requirements For Bio-waste Treatment
- **Stage V** – Manual For Municipalities
- **Stage VI** – Quality Assurance Scheme for Compost [QAS]
- **Stage VII** – Checklist for Control of Installations for Bio-waste Treatment
- **Stage VIII** – Electronic Information System
- **Stage IX** – Methodology of Data Evaluation & Reporting
- **Stage X** – Documents for Laboratory Accreditation



# NATIONAL LEGISLATIVE MEASURES

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## National Waste Management plan 2014 – 2020

- ❑ Building a system of 55 regional waste treatment systems
  - 20 biological treatment facilities in construction;
  - priority financing of further biowaste infrastructure (composting and AD plants);
- ❑ Significant decrease of landfilled waste - aiming to become Zero Waste Society;

**“WASMAP” IS THE INTEGRATED PART OF NWMP  
2014 – 2020**

# Current SMW status and achieved results

	2010	2011	2012
<b>GENERATED MUNICIPAL WASTE</b>			
Generated municipal waste – thousand tons	4094	3732	3364
Specific waste generation - kg/inhabitant/year	410	380	346
<b>COLECTED MUNICIPAL WASTE</b>			
Served settlements - number	4238	4364	4431
Population in served settlements	7394983	7247946	7228808
Share of population served by waste management services - %	98.2	98.9	99.2
Collected municipal waste from served settlements – thousand tons	3041	2727	2508
Collected municipal waste from served settlements – kg/inhabitant/year	404	376	347

## Current SMW status and achieved results

	2010	2011	2012
Municipal landfills	172	164	157
Municipal waste accepted on landfills, thousands tons	3725	3506	3257
<i>Municipal waste from households:</i>			
Landfilled municipal waste – thousand tons	3041	2568	2323
Municipal solid waste delivered for recycling – thousand tons	26	76	34
Composting municipal waste – thousand tons	.	84	81
<i>Municipal waste from administrative sources:</i>			
Municipal solid waste delivered for recycling – thousand tons	977	819	715
Composting municipal waste – thousand tons	.	.	11
Landfills area (total) - dca	4930	5046	4885

**Total recycling rate of MSW – 25 %**

# DRIVERS AND CHALLENGES OF THE “WASTE SECTOR METHANE ACTION PLAN”

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Despite the number of regulations, strategies, and action plans in place there appear to be a number of challenges to the implementation of effective landfill gas control.

- ❑ Knowledge and capacity development
- ❑ Enforcement
- ❑ Business Models

# OBJECTIVE, GOALS AND TARGETS OF THE WASTE SECTOR METHANE ACTION PLAN

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The overall objective of this Waste Sector Methane Action Plan is to ensure that actions are taken to control the emissions of methane from landfills across Bulgaria.

The WasMAP has three goals:

1. Improving Knowledge
2. Enforcing compliance
3. Developing business opportunities

# OBJECTIVE, GOALS AND TARGETS OF THE WASTE SECTOR METHANE ACTION PLAN

## Targets:

Target no.	Year	Action to be completed
1	2014	Flare installations implemented at 6 new and existing regional landfills and 5 old landfills.
2	2016	Flare installations implemented at 22 new and existing regional landfills and 31 old landfills
3	2016	Gas utilisation schemes implemented at 4 regional landfills
4	2018	Flare installations are implemented at 30 new and existing regional landfills
5	2018	Gas utilisation schemes are implemented at 12 regional landfills.
6	2020	Flare installations are implemented at 54 new and existing regional landfills
7	2020	Gas utilisation schemes are implemented in all sites for which feasibility is assessed as positive

# MEASURES ENVISAGED IN THE WASTE SECTOR METHANE ACTION PLAN

## Implementing Gas Collection and Flaring Systems

Period	Activity	Responsible stakeholders
<b>2014</b>	Procurement and implementation	Operators
	Advisory period for operation	MOEW
	Monitoring and assessment of performance, re-establish target flows or other performance criteria as necessary	MOEW



# MEASURES ENVISAGED IN THE WASTE SECTOR METHANE ACTION PLAN

## Capacity Building

Period	Action	Target Audience	Objective Target
<b>2014</b>	Initial awareness workshops for landfill gas management, resource potential, and roles and responsibilities	MOEW, local officers, municipalities, operators, potential contractors	Tranche 1 of flare installation 2014
<b>2014</b>	Production of gas management guidance documents	MOEW, designers, local officers, municipalities, operators, potential contractors	Tranche 1 of flare installation 2014 and ongoing
<b>2014/1 5</b>	Presentation of guidance documents/practical implementation workshops. Landfill integrated practices.	local officers, designers, state expertise, municipalities, operators, potential contractors	Tranche 1 of flare installation 2014 and ongoing
<b>2014/1 5</b>	Demonstration scheme for interim and final system installations – suitable site to be selected	MOEW, local officers, municipalities, operators, potential contractors	Tranche 1 of flare installation 2014 and ongoing

# MEASURES ENVISAGED IN THE WASTE SECTOR METHANE ACTION PLAN

## Sector Development

Period	Activity	Responsible stakeholders
<b>2014</b>	Implement pilot LFGE PPPs, stimulated as appropriate by competitive allocation of grant funding from OPE	MOEW, Managing authority
	Develop necessary instructions or guidelines which facilitate the emergence and sustainability of PPPs	implementing MOEW

# SCENARIOS FOR GMI SUPPORT AND PRIVATE INVESTMENT

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Through its participation in the Global Methane Initiative, U.S. Environmental Protection Agency continues to provides a variety of technical assistance, capacity building and training opportunities in conjunction with MOEW – Bulgaria GMI Partner delegate

- Technical
  - Institutional
  - Financial

# SCENARIOS FOR GMI SUPPORT AND PRIVATE INVESTMENT

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## Activities to Promote Methane Mitigation and Abatement

- ❑ International Best Practices Guide
- ❑ ECN and ISWA Collaboration
- ❑ Regional model
- ❑ Direct Use Resource Packet
- ❑ International Landfill Database

# THANK YOU FOR ATTENTION!



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