

Roadmap for Slovakia (SK)

To help ensure full implementation of EU waste legislation and the waste hierarchy, including by addressing the still very predominant reliance on landfilling municipal waste (81.3 %), the following recommendations are made:

Main recommendations

- 1. Increase progressively the existing landfill tax to divert waste from landfill. Use revenues to support separate collection and alternative infrastructure.**
- 2. Extend and enforce PAYT scheme. Provide incentives and support for households to participate in separate collection.**
- 3. Implement the bio-waste strategy including specific measures to divert biodegradable waste from landfill.**
- 4. Establish and control separate collection infrastructure and schemes. Implement door-to-door separate collection as soon as possible.**
- 5. Extend and improve the cost-effectiveness, monitoring and transparency of existing EPR schemes and eliminate free-riding.**
- 6. Improve the data collection system of municipal waste and include household packaging waste into the data on generation and treatment of municipal waste.**

National waste management situation

Administrative structure: The competent authorities responsible for waste management comprise on national level the Ministry of Environment (MoE) with its regional and district branches. The country has a centralized organisation structure. Organisation of the waste collection services is the responsibility of the municipalities.

Waste generation and collection: The total amount of municipal waste generated is 1,809 kt and accounts for about 0.7 % of municipal waste generated within the EU. Total amount of municipal waste generated per capita accounts for 333 kg and is lower than the EU average. The Slovak Environment Agency presumes that the total waste amount is underestimated due to statistical problems. Slovakia reported 100 % collection coverage of municipal waste. But [Ernst & Young 2011] estimates that the collection system is 'leaky' and there is a gap between the quantity of waste collected and the estimated quantity of waste generated, although statistical errors probably also play a role. Since 2010, all municipalities are obliged to organise separate collection for paper, glass, plastics and metals [MoE 2011-2015]. But the effectiveness differs highly between municipalities, ranging from 10 % to 70 % separate collection [SK Priatelia Zeme - SPZ 2012]. The informal sector plays a significant role with regard to the collection of certain waste streams including bulky waste, WEEE and batteries, of which parts or substances hold a certain market and provide a significant source of income for the large share of the poor and marginalized social groups¹.

Waste treatment: According to [EC 2011g], [MoE 2012] and organisations APOH and SEWA, Slovakia has sufficient capacity to dispose of all types of waste generated within its territory, although ZMOS esteems a lack of incineration capacity. Available treatment of municipal waste is mainly landfilling, and there is still a substantial number of illegal dumpsites. Slovakia has two waste incinerators for municipal waste with energy recovery. Sufficient infrastructure is in place for the recycling of packaging waste and some other relevant waste streams [MoE 2011-2015], [SK APPOH 2012]. Nevertheless, recycling rates are low and economic instruments need to be applied to increase recycling. Main problems are the high level of illegal waste dumping and burning [Ernst & Young 2011], and the fact that landfilling is much cheaper than selective collection and recycling [SK CEPTA 2012].

Policy instruments applied to move up the waste hierarchy: In some municipalities a PAYT scheme has been implemented, although the fee is fairly low. Also a landfill charge is implemented, but this charge is also fairly low, and not high enough to divert more waste from landfills to alternative treatment [EC 2012]. The state of the general environmental awareness of the public is on a low level, both with regard to sound waste management as well as waste prevention [BiPRO 2008-2011]. Even within local authorities, people are not always aware of the environmental impact caused by waste dumping or burning. Few national awareness campaigns are organized by the MoE. Mostly the industry associations, authorized organisations and NGOs are active in this field and organize awareness raising campaigns [SK Priatelia Zeme - SPZ 2012].

The main problems with regard to the management of municipal waste and their corresponding reasons are summarised in the following.

¹<http://www.transwaste.eu/file/001347.pdf> accessed on 27 February 2012

Overview of the most relevant problems and their reasons (in order of importance)

No	Deficit/Problem	Description of the problem	Reasons
1	Waste treatment largely diverting from the waste hierarchy	<p>The main treatment option for municipal waste is disposal in landfills. The current disposal rate is about 75 %, while less than 4 % of municipal waste is recycled and about 5 % is composted [EUROSTAT 2012b]. According to Slovak Environment Agency recycling and composting is higher due to statistical errors (e.g. recycling of packaging waste is not taken into account). Nevertheless, except for bio-waste [SK Priatelia Zeme - SPZ 2012b], enough recycling capacity is available in Slovakia [SK Priatelia Zeme - SPZ 2012][SK APOH 2012][SK SEWA 2012]. According to ZMOS, incineration capacity though is insufficient. The Slovak civil society has a lot of resistance to incineration.</p> <p>Separate collection infrastructure is limited in many municipalities². Funding and technical capacity lack in many municipalities. Moreover, few authorities are aware of the environmental impact of landfilling and dumping of municipal waste [SK Priatelia Zeme - SPZ 2012]. Landfilling is accepted as the traditional way of waste disposal [SK APOH 2012]. In addition, no economic instruments are sufficiently applied and landfilling remains much cheaper than other treatment options, especially in comparison to recycling [SK ZMOS 2012].</p> <p>In addition, fees coming from the landfill charge, PAYT scheme and extended producer responsibility should be invested in waste management, including separate collection infrastructure (obligatory through Act no. 17/2004).</p> <p>The money of the Recycling Fund is used for investment in infrastructure for separate collection and treatment of different types of waste that are subject to producer extended responsibility, e.g. packaging waste (paper, metal, plastic, glass,...), batteries, tyres, mineral oil, etc. According to ZMOS, only investments are made to reach the recycling percentages. If these percentages are reached, producers and importers of packaging do not need to pay any additional fee to the Recycling Fund. The obligation to separate the remaining waste, therefore, remains completely with municipalities [SK ZMOS 2012]. According to CEPTA, the contributions of the industry are too low to fully cover the costs of the municipalities for separate collection [SK CEPTA 2012], although associations of producers have declared several times that they are prepared to cover costs for separate collection on MW if provisions on “extended producer responsibility” are</p>	<ul style="list-style-type: none"> • High landfill capacity available (no urgent need for action) [SK MoE 2011-2015] • The level of the landfill charge in place is comparably low; little political support for increasing the tax [EC 2012][SK Priatelia Zeme - SPZ 2012] • Limited infrastructure for separate collection [SK Priatelia Zeme - SPZ 2012] • Limited technical capacity of local authorities [SK Priatelia Zeme - SPZ 2012] • Traditional method (“habit”) of disposing waste (there is a long tradition of disposing waste on landfills in Slovakia) [SK APOH 2012] • No PAYT scheme in place (or only very limited in some municipalities) [EC 2012] • No economic incentives for recycling [EC 2012] • Limited infrastructure for treatment of bio-waste [SK Priatelia Zeme - SPZ 2012b] • Missing transposition of EU requirements into national legislation including lack of transposing (although this should be resolved with implementation of the new Act no. 343/2012 that enters into force on 1 January 2013): <ul style="list-style-type: none"> ○ The waste hierarchy [SK NATUR-PACK 2012] ○ The provisions for separate collection [SK NATUR-PACK 2012] • Quality of separate collection is sometimes bad, resulting in ‘polluted’ waste streams that can’t be recycled and need to be landfilled or incinerated. The general public is not always

² „to some municipalities“, according to Natur-Pack (2012).

No	Deficit/Problem	Description of the problem	Reasons
		<p>correctly transposed into Slovak waste legislation. A problem of the Recycling Fund are free-riders, who are not part of EPR system and don't contribute. Their number would amount to 30 % [SK NATUR-PACK 2012][SK APOH 2012].</p> <p>The waste hierarchy is not implemented in current waste legislation [SK NATUR-PACK 2012]. But this problem will be tackled in the coming new Waste Act, that will come into force on 1 January 2013 [SK MoE 2012] [SK CEPTA 2012]. Further, the requirement to develop a waste prevention programme and the targets for recycling and recovery of municipal waste and construction and demolition waste are not transposed into national law so far [Ernst & Young 2011]. In addition, Slovak legislation does not include targets on separate collection: only the obligation for municipalities to collect a number of waste streams separately.</p> <p>Both the public society and local authorities are not fully aware of the environmental harm caused by illegal dumping and burning of waste. Waste prevention receives no or little attention [SK Priatel'ia Zeme - SPZ 2012]. Awareness raising campaigns are mostly set up by industry (packaging waste) or NGOs [SK SEWA 2012] [SK NATUR-PACK 2012] [SK Priatel'ia Zeme - SPZ 2012].</p> <p>Significant efforts will be needed to better implement the waste hierarchy and to meet the aspirational objectives of the Resource Efficiency Roadmap (virtually eliminate landfilling, energy recovery limited to non-recyclable waste).</p>	<p>conscious of the importance of separate collections [SK ZMOS 2012]</p> <ul style="list-style-type: none"> • The distribution of the Environmental Fund of the Ministry is not transparent and corruption is suspected. • Lack of proper cooperation between municipalities
2	High share of bio-degradable waste going to landfills	<p>A significant share of biodegradable waste is landfilled. The first target for the reduction of biodegradable waste was barely achieved (i.e. 73.3 % going to landfills in comparison to data of 1995). Slovakia lacks a clear and ambitious strategy for bio-waste management [SK Priatel'ia Zeme - SPZ 2012], and bio-waste management has no priority with municipalities. So far no separate collection of bio-waste is in place; by 2013, Slovakia intends to establish effective separate collection of bio-waste [SK Priatel'ia Zeme - SPZ 2012b] [MoE 2011-2015]. Home composting is rarely supported and also related treatment capacity is insufficient. There is almost no compost market (and no support for developing it) and also the compost quality is sometimes a problem (especially in small municipal composting sites, where bio-waste is composted with little knowledge) [SK Priatel'ia Zeme - SPZ 2012b]; [SK ZMOS 2012]. Separate collection of bio-waste is for municipalities 4 to 5 times more expensive than landfilling it together with mixed municipal waste [SK ZMOS 2012].</p>	<ul style="list-style-type: none"> • Adequate bio-waste treatment infrastructure is not yet in place [SK Priatel'ia Zeme - SPZ 2012b], but many projects have started up in the past 5 years • Bio-waste collection and recycling is economically not viable [SK ZMOS 2012] • There is no MBT technology except for composting stations and biogas stations [SK APOH 2012]. • No appropriate measures in place to encourage separate collection of bio-waste including provision of collection infrastructure [SK Priatel'ia Zeme - SPZ 2012b] [MoE 2011-2015] • There is no market for compost; municipalities use it for

No	Deficit/Problem	Description of the problem	Reasons
		<p>Some legal obligations regarding bio-waste management are in place for municipalities and industry, but the government is unable to provide for sufficient supervision and inspections due to lack of (technical) capacity and financial resources [SK Priatelia Zeme - SPZ 2012b].</p> <p>In the WMP, a ban on landfilling municipal waste with more than 5 % carbon content has been included [MoE 2011-2015] but this will not be sufficient to achieve the EU diversion target.</p>	<p>fertilisation of their parks and green areas [SK ZMOS 2012]</p> <ul style="list-style-type: none"> • Landfill restrictions/ban in place but not specifically related to municipal waste/biodegradable waste • A handbook on bio-waste management for local and regional authorities is available, but its existence is barely known [SK Priatelia Zeme - SPZ 2012b] • Lack of proper cooperation between municipalities • Lack of targeted awareness campaigns and information of bio-waste management (e.g. promotion of home composting) for households
3	<p>Existence of illegal dumpsites (non-compliant landfills)</p>	<p>Slovakia counts a relatively high rate of illegal dumpsites. 8,000 illegal dumpsites were counted within a survey in 1991 and the number could be decreased to an estimated 300 dump sites in the year 2007. However, the problem of old and illegal dump sites still exists and has not been adequately addressed yet [BiPRO 2007-2011]. MoE developed the “State plan 2010 - 2015 for the remediation of high risk localities in SR”, which was approved by the Slovak Government in February 2010. This strategic document includes also plan for remediation of old landfills. But according to Priatelia Zeme - SPZ, 12,000 (or even more) illegal dump sites still exist [SK Priatelia Zeme - SPZ Interview 2012].</p> <p>The past years, new regulations and programs have been implemented to ensure stepwise removal of contaminated sites and minimisation of the risk resulting from them. In 2010, funds for rehabilitation of 144 landfills were provided by the European Cohesion Fund. Each year, A ‘Clean Slovakia’ project is set up to solve the problem, but new illegal dumpsites are started. Moreover, nobody wants to pay to remove the illegal waste [SK Priatelia Zeme - SPZ Interview 2012].</p> <p>A NGO initiative is TrashOut.Me: citizens can report illegal dumps through a mobile app and locations are made public. Illegal dumps in Bratislava’s region are systematically cleaned and removed by an informal organisation of Bratislava’s citizens “Greenwatch” in cooperation with local authorities and collection companies [NATUR-PACK 2012].</p> <p>These illegal dumpsites may explain the ‘leakage’ of the waste management system [Ernst & Young 2011], namely the estimated 5% of generated waste that is ‘missing’ in waste data (although statistical problems also explain part of the 5% leakage). However, it should also be taken into account that some individual citizens also dump or burn their own municipal waste [SK</p>	<ul style="list-style-type: none"> • High costs for municipal waste management or low acceptance of the society to pay for waste management • Low environmental awareness of the public on the negative impacts on human health and the environment caused by illegal dumping and burning of municipal waste [SK Priatelia Zeme - SPZ 2012] • Landfilling is the traditional method (“habit”) of disposing waste (there is a long tradition of disposing waste on landfills in Slovakia) [SK APOH 2012] • No targeted actions of the local authorities to stop and fine illegal dumping, although the Slovak Environmental Inspection and district environmental offices target this issue • Insufficient collection and waste treatment infrastructure

No	Deficit/Problem	Description of the problem	Reasons
		Priatelia Zeme - SPZ 2012].	
4	Insufficient source separated collection of municipal waste	<p>The separate collection of municipal waste in Slovakia is still in the developing phase, although large differences exist between municipalities. Since 2010, all municipalities need to organise separate collection for paper, glass, plastics and metals [MoE 2011-2015]. The effectiveness differs highly between municipalities, ranging from 10% to 70% separate collection [SK Priatelia Zeme - SPZ 2012].</p> <p>Different schemes exist, ranging from door-to-door collection to containers in the centre areas. In some municipalities a PAYT scheme has been implemented, which has led to higher separate collection (up to 70%).</p> <p>Separate collection infrastructure for bio-waste is currently not in place, but its implementation is planned for 2013 [MoE 2011-2015].</p> <p>More funding is needed to establish effective separate collection in the whole country. In addition, more technical capacity within municipalities is needed; formal cooperation between municipalities with regard to waste management has not been established yet [SK Priatelia Zeme - SPZ 2012][SK ZMOS 2012], but could help to tackle these problems. In addition, fees coming from the landfill tax, PAYT scheme and extended producer responsibility should be invested in separate collection infrastructure.</p> <p>The money of the Recycling Fund is used for investment in infrastructure for separate collection and treatment of different types of waste that are subject to producer extended responsibility, e.g. packaging waste (paper, metal, plastic, glass,...), batteries, tyres, mineral oil, etc. According to ZMOS, only investments are made to reach the recycling percentages. If these percentages are reached, producers and importers of packaging do not need to pay any additional fee to the Recycling Fund. The obligation to separate the remaining waste, therefore, remains completely with municipalities [SK ZMOS 2012]. According to CEPTA, the contributions of the industry are too low to fully cover the costs of the municipalities for separate collection [SK CEPTA 2012]. A problem of the Recycling Fund are free-riders, who are not part of EPR system and don't contribute. Their number would amount to 30 % [SK NATUR-PACK 2012][SK APOH 2012].</p> <p>Separate collection will have to be considerably improved in the future in order to meet the</p>	<ul style="list-style-type: none"> Limited infrastructure for separate collection [SK Priatelia Zeme - SPZ 2012] Limited economic instruments (PAYT scheme, deposit-refund systems etc.) in place to encourage separate collection [EC 2012] Producer responsibility or equivalent systems in place are not able to cover the full costs of separate collection and recycling of the main waste streams³ [SK Priatelia Zeme - SPZ 2012] [SK SEWA 2012] [SK NATUR-PACK 2012] Insufficient environmental awareness [SK Priatelia Zeme - SPZ 2012] Limited information provision and awareness raising campaigns of MoE regarding the importance of separate collection; campaigns are mostly set up by industry representatives [SK Priatelia Zeme - SPZ 2012] [SK SEWA 2012] [SK NATUR-PACK 2012] The general EU standards from the WFD have not been implemented yet [SK NATUR-PACK 2012][Ernst & Young 2011] (this should be resolved with implementation of the new Act no. 343/2012 that enters into force on 1 January 2013) Limited technical capacity and awareness of local authorities [SK Priatelia Zeme - SPZ 2012] Currently, the distribution of the Environmental Fund of the Ministry is not transparent and corruption is suspected Lack of proper cooperation between municipalities

³ The current green dot fees do not cover the costs of separate collection. Moreover, not all packaging responsibility organisations donate part of the fees to the municipalities for separate collection [SK Priatelia Zeme - SPZ Interview 2012].

No	Deficit/Problem	Description of the problem	Reasons
5	Unreliable waste data	<p>requirements of the Waste Framework Directive.</p> <p>The quality of data, indicators and other relevant information on waste quantities generated needs to be improved. On the one hand, there exist problems with regard to technical capacity of local authorities [SK Priatelia Zeme - SPZ 2012], on the other hand Slovakia is confronted with 'leakage' of the waste management system [Ernst & Young 2011]. In Slovakia, 15 kg waste per inhabitant or 5 % of estimated waste generated is not accounted for, meaning it is illegally burned or dumped [Ernst & Young 2011] and/or to incomplete statistics.</p> <p>Data are also missing to the 30 % free riders in the system [SK NATUR-PACK 2012] [SK APOH 2012].</p> <p>According to [EEA 2012b], Slovakia has not included much of the recycled packaging waste from households and similar packaging from other sources in its reporting of recycled municipal waste to Eurostat. The amount of recycled municipal waste in Slovakia was significantly lower than the amount of recycled packaging waste. The actual recycling rates in Slovakia may therefore be higher than presented in Eurostat.</p> <p>Slovak Environment Agency will start a project on improving the waste information system, which includes a change in waste legislation and funds for the development of a new system and training of local authorities.</p>	<ul style="list-style-type: none"> • Relatively high level of illegal waste burning and dumping, resulting in an underestimation of officially declared generated waste [SK Priatelia Zeme - SPZ Interview 2012] [Ernst & Young 2011] • Limited technical capacity and awareness of local authorities, resulting in lack of knowledge of the required data [SK Priatelia Zeme - SPZ Interview 2012]. • There is a serious problem with free riders (companies that are not registered in any authorised EPR collective system): data from these companies are missing [SK APOH 2012].

Action plan

Horizontal measures addressing several problems

MEASURE	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Estimation of achievable result
MEASURE 1: Increase landfill charge					
Increase progressively the existing landfill charge to achieve higher total costs for landfilling than for alternative treatment infrastructure (given the political sensitivity, the increase and corresponding intervals need to be further discussed) <i>Revenues preferably to be invested collection and treatment infrastructure (as already stipulated in Act n° 17/2004)</i>	Legal Administrative	MoE	Ad-hoc	Low	<ul style="list-style-type: none"> - Reduced amount of untreated municipal waste going to landfills, making recycling an economic alternative - Increased acceptance of the increase of taxations, transparency, reliability for investors of recycling facilities
Initiate awareness raising campaigns regarding the reasons of the increase of the landfill charge for different target groups	Informative	MoE	Ad-hoc	Low	
Undertake expert meetings on procedures for implementation and management of landfill charges for local authorities/municipalities: how do they best use them	Informative	MoE	Short- to mid-term	Low	
MEASURE 2: Restrictions/Ban on landfilling municipal waste					
Introduce a tax for incineration to prevent underdevelopment of recycling on long-term basis in harmonisation with the tax on landfilling	Economic/Fiscal Legal	MoE	Mid- to Long-term	Low	- Support of recycling
MEASURE 3: Restrictions/Ban on landfilling municipal waste					
Ban on landfilling unsorted municipal waste (>5% carbon, as specified in the WMP 2011-2015) as soon as separate collection and alternative treatment infrastructure is in place	Legal	MoE	Short-term to mid-term	None	<ul style="list-style-type: none"> - Share of biodegradable waste going to landfills reduced; - Increase in composting/ anaerobic digestion - Reduction of illegal landfilling through increased inspection
Ban on landfilling biodegradable municipal waste (including garden waste as has already been implemented) as soon as sufficient treatment infrastructure for bio-waste is in place	Legal	MoE	Mid-term	None	
Strengthen inspection and enforcement: provide sufficient human/ economic resources, provide training for local inspection and police officers	Legal	MoE, Slovak Environment Inspectorate, municipalities	Short-term to mid-term	Medium	

MEASURE	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Estimation of achievable result
Introduce penalties and fines for non-compliance with the waste hierarchy for both individuals and municipalities (e.g. when municipalities continue to landfill municipal waste to a large extent) (targets and amounts of fines to be further discussed)	Economic/fiscal	MoE	Short-term to mid-term	Low	
MEASURE 4: PAYT scheme					
Impose a higher minimal PAYT fee (level needs to be further discussed), and eliminate the maximum level of the fee as currently imposed in the law on local taxes	Economic/fiscal	MoE, MoF, municipalities	Short-term to mid-term	None	- Increase of separate collection, reduce land-filling, increase of recycling
Undertake expert meetings on procedures for implementation and management of taxes for local authorities	Informational/educations	MoE	Short-term to mid-term	Low	- Acceptance of the increase of taxations, transparency - Revenues available for local waste management
MEASURE 5: EPR schemes					
Reform of the producer responsibility scheme: higher fees that cover separate collection costs, but no double payment anymore (currently collective schemes + Recycling Fund); make sure that all packaging producers need to pay a fee	Administrative	MoE	Short-term	Low	- Creation of economic conditions to launch separate collection and establish sorting infrastructure
Active detection of free-riders in the EPR system. Inspection and enforcement of the EPR system should get high priority given the high percentage (30%) of free-riders (estimate of NATUR-Pack).	Legal	MoE, Slovak Environment Inspectorate	Short-term	Low	- Improved performance of EPR - More complete waste data
MEASURE 6: Enhance enforcement					
Strengthen inspection and enforcement: provide sufficient human/ economic resources, provide training for local inspection and police officers	Administrative, Legal	MoE, MoF, Slovak Environment Inspectorate	Ad – hoc to Mid-term	Medium	- Better implementation of legal provisions
Enforce penalties and fines for non-compliance (addressing all actors involved: citizens, waste producers, waste management companies)	Administrative, Economic, Legal	MoE	Ad – hoc to Mid-term	Low	- Revenues through fines
MEASURE 7: Better use EU funds for establishment of alternative infrastructure					
Improve utilisation and allocation of the Cohesion Policy fund in order to further develop separate collection infrastructure	Administrative	MoE	Short-term to mid-term	Low	- Increased budget for investments in separate

MEASURE	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Estimation of achievable result
Increase administrative adsorption capacity for EU funding by allocating more resources and technical capacity building (e.g. via LIFE projects)	Administrative	MoE	Short-term to mid-term	Low to medium	collection and alternative waste treatment

PROBLEM 1: Waste treatment largely diverting from the waste hierarchy

Abbreviations: Ministry of Environment (MoE), Ministry of Finance (MoF), Ministry of Infrastructure (MoI)

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
PROPOSAL 1: Financial rewards for good performance							
Reward municipalities with low amounts of mixed waste landfilled or incineration	Economic/fiscal	MoE	Short-term to mid-term	Low to medium	n.a.	Financial and image incentives; lower share of municipal waste landfilled or incinerated, higher recycling, increased waste prevention	++
PROPOSAL 2: Establishment of separate collection and alternative treatment infrastructure							
Establish high standard MBT facilities or other alternative infrastructure (number and capacity to be discussed) as a transitional solution to reach the bio-waste landfill targets	Infrastructural	MoE, MoF	Mid-term to long-term	Medium to high	ERDF; CF	Improved separation of municipal waste in fractions for further treatment; generation of renewable energy by means of composting/anaerobic digestion	+++
Invest into and support source separate collection	See problem 3						

PROBLEM 2: High share of biodegradable waste going to landfills

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
PROPOSAL 1: Establishment of appropriate collection and treatment infrastructure for biodegradable waste							
Establish composting facilities (number and capacity to be discussed)	Infrastructural	MoE	Short-term to Mid-term	Medium to high	ERDF; CF	Significant increase of bio-waste recycling	+++

European Commission

Roadmap for Slovakia

Support to Member States in improving waste management based on assessment of Member States' performance

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
Establish anaerobic digestion facilities (number and capacity to be discussed)	Infrastructural	MoE	Mid-term to long-term	Medium to high	ERDF; CF	Improvement of alternative bio-waste treatment; generation of renewable energy and higher share of renewable energy sources in the total energy consumption	++
Establish collection points for green garden waste at civic amenity sites or other bring systems (supervised single container collection)	Infrastructural	MoE, Municipalities	Ad-hoc to short-term	Low to medium	ERDF; CF	High compost quality	++
Promote home composting	Informational/educational	MoE	Short-term	Low	LIFE	Reduced bio-waste to be collected and treated	++
Provide bins/special bags for separate collection of bio-waste (number, design, volume, etc. to be specified in accordance to the collection scheme, frequency, rural/urban areas)	Infrastructural	Municipalities	Short-term to mid-term	tbc	ERDF; CF	Prerequisite for achieving high compost quality.	+++
PROPOSAL 2: Create a market for compost							
Align quality criteria for compost to already developed EU standards (e.g. limit values for contaminants)	Legal	MoE, Ministry of Agriculture	Short-term	Low	LIFE	High compost quality	+
Label compost that satisfies the quality standards	Administrative	MoE, Ministry of Agriculture	Short-term	Low	LIFE	High compost quality; potential buyers can trust the product	+
Conduct studies on a possible demand for compost/export of compost	Informational	MoE, Slovak Environment Agency	Short-term	Low	LIFE	Determination of a market for compost	++
Promote compost via provision of information on benefits, quality standards, etc. (e.g. via consumer organisations)	Informative	MoE	Short-term	Low	n.a.	Increased sales of compost	+
PROPOSAL 3: Improve knowledge basis regarding the management of bio-waste, awareness raising							

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
Increase the number of pilot projects related to collection and treatment of bio-waste covering different regions	Administrative	MoE	Short-term to mid-term	Low to medium	LIFE	Improved knowledge and decision basis regarding major schemes and strategies for bio-waste management	+++
Information exchange via expert forum on bio-waste	Administrative	MoE	Short-term	Low	n.a.	Increased knowledge on compost management	++
Participation in the EU compost network or other international working groups to follow major developments and exchange information/experience	Administrative	MoE	Ad-hoc	Low	n.a.	Increased knowledge on compost management (recent studies, best practices, but also difficulties in managing bio-waste)	++
Awareness raising campaigns for the general public on separate collection of bio-waste, home composting, etc.	Informational/educational	MoE	Short-term	Low	LIFE	Increased compost recycling	+++
Distribution and awareness raising on the existing Handbook bio-waste management for local and regional authorities	Informational/educational	MoE, municipalities	Short-term	Low	n.a.	Increased knowledge on bio-waste management with local & regional authorities	+++

PROBLEM 3: Existence of illegal dumpsites

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
PROPOSAL 1: Closure and rehabilitation of all active illegal dumpsites							
Close all active illegal dumpsites	Infrastructural	MoE, MoI, MoF	Ad - hoc	Medium	ERDF; CPF; EIB	Only operation of EU compliant landfills and reduction of air/soil pollution sources. Further, this increases the possibility to gain more material for recovery and recycling.	+++

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
Rehabilitation of all closed dumpsites	Infrastructural	MoE, Mol, MoF	Ad – hoc to Mid-term	Medium	ERDF; CPF; EIB	Only operation of EU compliant landfills and reduction of air/soil pollution sources. Further, this increases the possibility to gain more material for recovery and recycling.	+++
PROPOSAL 2: Increase awareness on illegal dumping							
Undertake awareness campaigns and provide information on the negative impacts of illegal dumping on human health and the environment, and on the penalties/fines for illegal dumping	Informative	Ministry of Environment	Ad – hoc to Mid-term	Low	LIFE	Better understanding of the negative impacts related to illegal dumping. Only operation of EU compliant landfills and reduction of air/soil pollution sources. Awareness of the penalties for illegal dumping	+++
Introduce a hotline for the public to report on illegal dumping activities	Administrative	Ministry of Environment	Ad – hoc to Mid-term	Low	n.a.	Only operation of EU compliant landfills and reduction of air/soil pollution sources. More revenues for investment into new infrastructure	++

PROBLEM 4: Insufficient source separated collection of municipal waste

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
PROPOSAL 1: Establishment of appropriate separate collection infrastructure							
Provide bins/special bags for separate collection of municipal waste (number, design, volume, etc. to be specified in accordance to the collection scheme, frequency, rural/urban areas)	Infrastructural	MoE, municipalities	Short-term to mid-term	Low to medium	ERDF; CF	Improved source separation; better quality of secondary raw materials.	+++
Increase the number and quality of different bring systems (kerbside collection, collection points, supervised single container collection, etc.): number and types for urban/rural areas to be determined	Infrastructural	MoE, municipalities	Short-term to mid-term	Low to medium	ERDF; CF	Improved source separation; better quality of secondary raw materials.	+++

European Commission

Roadmap for Slovakia

Support to Member States in improving waste management based on assessment of Member States' performance

 BiPRO

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
Establish complex civic amenity sites for collection of all types of municipal waste also including the option to - deliver and sort hazardous household wastes - deliver products for a possible reuse	Infrastructural	MoE, , municipalities	Short-term to long-term	Medium	ERDF; CF; LIFE	Higher quality of separately collected waste (separation of hazardous from non hazardous streams). Prevention of waste via reuse of products	+++
Establishment of reuse centres (e.g. furniture, electrical and electronic products, textiles, etc.) (number to be determined; useful in combination with repair networks)	Infrastructural	MoE, municipalities	Ad-hoc to mid-term	Low to medium	LIFE	Prevention of waste via reuse of products	+++
Establishment of repair centres and networks (e.g. furniture, WEEE, bikes)	Infrastructural	MoE, municipalities	Ad-hoc to mid-term	Low to medium	LIFE	Preparing for reuse	++
PROPOSAL 2: Improve the transparency and distribution of the Recycling and Environmental Fund							
Establish transparent procedures and criteria for distribution/utilisation of the Recycling and the Environmental Fund for investments in collection infrastructure. Revenues from the landfill tax, EPR system, PAYT,... should be directly invested in collection infrastructure and alternative waste treatment	Administrative	MoE	Short-term	Low	n.a.	Increased budget for investments in separate collection and alternative waste treatment	+++
PROPOSAL 3: Implement measures to encourage and support separate collection							
Establish minimum rates of separate collection . Municipalities can subsequently determine how to reach these targets (e.g. separate collection points for each inhabitant within 5 km, minimum collection frequency of once in 2 or 4 weeks)	Legal	MoE, MoF	Short-term to mid-term	None	n.a.	Improved source separated collection, increase in municipal waste recycling	+++
Include in public procurement relevant requirements to provide for improved separate collection services (including number and frequency of collection, coverage of rural areas)	Administrative	Municipalities	Short-term	Low	n.a.	Improved services for separate collection	++

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
Supervise compliance and quality of service provided by waste management companies through inspections and control activities	Administrative	Slovak Environment Inspectorate, municipalities	Ad-hoc to short-term	Low to medium	n.a.	Improved quality of services for separate collection	++
PROPOSAL 4: Capacity building and training of authorities							
Establish inter-municipal waste management associations to bundle capacities and improve cooperation between adjacent municipalities, define responsibilities	Administrative	MoE, municipalities	Short-term to mid-term	Low to medium	ESF	Higher share of separate collection due to sharing of costs and increased technical capacity	+++
Initiate in depth consultation with relevant actors from industry, retailers and waste management organisations	Administrative	MoE	Short-term	Low	ERDF; CF	Increase in technical capacity of authorities	++
Provide for capacity building and information exchange for local authorities: <ul style="list-style-type: none"> - Organise trainings and expert knowledge exchange programmes, conferences, etc. - Establish a joint platform for exchange of experiences and waste management related problems 	Informational/educational	MoE, municipalities	Short-term to mid-term	Low	n.a.	Improved knowledge basis through information/experience exchange	++
Provide guidelines and manuals on separate collection (use available studies from other countries)	Informational/educational	MoE	Short-term	Low	ERDF; CF	Increase in technical capacity of authorities	++
PROPOSAL 5: Initiate awareness raising campaigns on separate collection of waste for different target groups in accordance to their specific needs							
Initiate awareness raising campaigns for general public and industry on separate collection, recycling centres, fee systems, etc. : <ul style="list-style-type: none"> – Provide easily understandable information to households via leaflets and brochures, internet platform – make TV spots on the importance of separate collection, home composting, etc. 	Informational/educational	MoE	Short-term	Low	LIFE	Increased separate collection and recycling of municipal waste; reduction of illegal waste dumping & burning	+++

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
– involve waste operators in waste awareness campaigns for open days, special activities , etc.							

PROBLEM 5: Unreliable waste data

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
PROPOSAL 1: Combat illegal dumping and burning							
See PROBLEM 3							
Adjust the fire law: include the stipulation that burning of waste is prohibited	Legal	MoE	Short-term	None	n.a.	Decrease of illegal burning and dumping	+++
Initiate awareness raising campaigns on illegal dumping and burning, making people aware of the impact on health & environment of the generated hazardous substances.	Informational/ educational	MoE	Short-term	Low	LIFE	See above	+++
PROPOSAL 2: Include packaging waste from households into the statistics of municipal waste management and subsequent reporting to EUROSTAT							
Include packaging waste from households into the statistics of municipal waste management and subsequent reporting to EUROSTAT	Administrative	MoE; Municipalities	Mid-term	n.a.	n.a.	Better data on real recycling rates	++
PROPOSAL 3: Reform the waste data registration system							
Foresee a waste register to be kept by key waste producers, collectors, treatment plants, as a source of data that can be used for data reporting	Administrative	MoE	Short-term to mid-term	Low	n.a.	More correct datasets (as in input for national waste statistics)	+++
The current waste database is too complex. Involve external expertise to shape a clear waste database . Foresee a simple reporting format, and a statistically sound analysis method to aggregate or extrapolate the retrieved data.	Administrative	MoE, Slovak Environment Agency	Short-term to mid-term	Low to medium	n.a.	See above	+++
PROPOSAL 4: Capacity building and training of local authorities							
Specific education on sound waste management	Informational/	MoE	Short-	Low	LIFE	More correct datasets (as in input for	+++

European Commission

Roadmap for Slovakia

Support to Member States in improving waste management based on assessment of Member States' performance

Proposals to address the problem	Type of the instrument	Responsibility	Indicative time scale	Estimated costs	Available EU Funding	Estimation of achievable result	Priority scoring
and data processing	educational		term			national waste statistics)	
Provide guidelines and manuals on sound data collection and processing	Informational/ educational	MoE	Short-term	Low	LIFE	See above	+++
Increase cooperation between municipalities (e.g. via formation of inter-municipal associations)	Administrative	MoE	Short- to mid-term	Low	n.a.	See above	+++