



Convergence with EU Waste Policies

Short Guide for ENP Partners
and Russia



waste



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environment

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Short Guide for ENP Partners and Russia

Policy Guide: Waste Policy

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1 Introduction

The European Neighbourhood Policy (ENP) was created in 2003/2004 and is now well established as the principal vehicle for cooperation with the neighbour countries. It is a collective EU response to the aspirations of its Eastern and Southern neighbours to jointly promote prosperity, stability and security in our region.

The recent historic enlargement of the EU in 2004 and 2007 contributed to the creation of a large zone of democracy and prosperity in Europe. The political, economic, social and environmental gaps between the Union and its neighbours to the East – Belarus, Ukraine, Moldova and the Southern Caucasus, and to the South, in the Mediterranean region, are worryingly large and in certain cases increasing. The EU wants to prevent the emergence of new dividing lines between the enlarged EU and its neighbours.

The European Neighbourhood Policy represents a new approach in the EU's relations with its neighbours. This "partnership for reform" is offered by the EU to 16 partner countries to the South and to the East of the EU¹. It goes beyond classical co-operation: it consists of intensified political dialogue and deeper economic relations, based on shared values and common interest in tackling common problems. The ENP is not about membership of the EU – if an accession perspective were to be offered at some point in the future to any of the countries covered by the ENP, this would be a separate process.

The necessary legal and institutional framework for intensified cooperation with ENP partners are Partnership and Cooperation Agreements or Association Agreements. The tools, however, to deliver concrete results are jointly agreed, tailor-made ENP Action Plans² with short and medium term priorities (3–5 years). They cover a wide range of issues: political dialogue and macro-economic reforms, trade, co-operation in Justice, Liberty and Security, various sector-policies (transport, energy, environment and climate change, research, information society, social policy and employment) as well as a deep human dimension – people to people contacts, education, health, civil society. The ENP Action Plans also provide a means of technical and financial support in the partner's own reform efforts and modernisation.

The European Neighbourhood and Partnership Instrument (ENPI), as a "policy driven" financial instrument, will support in the period 2007–2013 the implementation of the ENP Action Plans, and, in the case of Russian Federation, which is not covered by the ENP³, the road-maps for the four common spaces. In that context, it goes further than promoting sustainable development and fighting poverty to encompass, for example, considerable support for measures leading to progressive participation in the EU's internal market. Legislative and regulatory convergence and institution building is supported through mechanisms such as the exchange of experience, long term twinning arrangements with Member States or participation in Community programmes and agencies. The ENPI replaces MEDA and TACIS and other existing geographical and thematic instruments.

The Commission has set up a web-site explaining the ENP and its processes and containing key ENP documents such as the Strategy Papers, the Action Plans and Progress Reports. Please refer to: http://ec.europa.eu/world/enp/index_en.htm.

ENP partner countries are expected to benefit considerably from full implementation of the ENP Action Plans, including from enhanced convergence with the EU approaches. For benefits resulting from enhanced environment protection, including convergence, please refer to Chapter 3.

¹ Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Morocco, the Occupied Palestinian Territory, Syria, Tunisia, Ukraine.

² With exception of Algeria, Belarus, Libya and Syria ENP Action Plans have been agreed with all the countries mentioned

³ The EU and Russia are linked by the Strategic Partnership.

In order to help partner countries to realise these benefits, the European Commission has decided to provide information on EU environment policy and legislation in key policy areas. To this end, the European Commission has initiated the production of **six short guides** on the following topics:

- **Water quality**, with a focus on the Water Framework Directive and related developments, such as the Flood Directive or the Groundwater Directive;
- **Waste management**, with a focus on the Waste Framework Directive;
- **Air quality**, with a focus on the Framework and Daughter Directives;
- Environmental **Impact Assessment**, Strategic Environmental Assessment, Access to Information, Participation in Decision-Making, and Reporting;
- **Nature protection**, with a focus on the Habitats and Birds Directives (e.g. cross-border co-operation) and the Natura 2000 network (e.g. ways to establish measures or monitoring);
- **Industrial pollution**, including the Integrated Pollution Prevention and Control Directive.

Where relevant the guides address the seven Thematic Strategies under the 6th Environment Action Programme (EAP).⁴ The Thematic Strategies constitute the framework for action at EU level in each of the concerned priorities and cover the following fields: soil and the marine environment (in the priority area of biodiversity), air, pesticides and urban environment (in the priority area of environment, health and quality of life) and natural resources and waste recycling (in the priority area of natural resources and waste).⁵

Climate change issues are becoming an increasingly important component of the EU's environmental cooperation with partner countries, which bilateral dialogues will increasingly address. Documents on this crucial topic of common interest will be issued separately from this series of guides.

The **purpose** of this policy guide on waste is to provide information on EU policy and legislation by describing the policy background and explaining how progress can be achieved through the prioritisation and sequencing of activities. The guide shows how gradual or partial convergence with the EU environment policy and legislation can assist the ENP partner countries and Russia in addressing environmental concerns.

The policy guide sets out the key principles and concepts of the relevant pieces of legislation and outlines the main policy instruments used within the EU. This includes summarising the main provisions of the legislation. The guide also addresses the current general policy situation of Eastern and Mediterranean ENP partners and looks at potential challenges to convergence. Finally, it identifies useful steps to be taken to promote convergence. Since the individual situation in partner countries varies considerably, the guides take a general approach and references to specific countries are not made. The relevance of full or partial convergence is also to be seen in this light.

⁴ For the 6th EAP please refer to: <http://ec.europa.eu/environment/newprg/index.htm>.

⁵ For the seven Thematic Strategies please refer to: http://ec.europa.eu/environment/newprg/strategies_en.htm.

2 In a Nutshell

The problems that this policy aims to address:

EU waste policy aims to foster environmentally sound waste management. The essential objective of all provisions relating to waste management should be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste.⁶

In addition to (uncontrolled) landfills and littering many countries face the challenge of continuously growing waste amounts and/or changing composition of waste, e.g. increasing share of electronic waste as their economies grow.

How the policy addresses these problems:

Waste Management Hierarchy

EU Waste Policy, more concretely the Waste Framework Directive, establishes a **waste hierarchy** by which it prioritises the management and treatment of waste along the following lines:

- Prevention or reduction of waste production and its harmfulness;
- Recovery of waste.

The safe disposal of waste e.g. in landfills is only considered as a final resort.

By this hierarchy, the EU Waste Policy contributes to utilising the energetic or material resources embedded in waste and by this fosters the saving of primary resources ("primary energy", "primary materials").⁷

Waste management planning

In order to facilitate rational waste management, which takes into account the mass and composition of waste and the real needs of a community/region, the Waste Framework Directive prescribes waste management planning.

Various specific directives regulate the management of specific waste streams and lay down a concrete objective for their recovery and recycling. These directives all stipulate the separate collection of these waste streams.

Other waste management directives lay down requirements for the different waste treatment methods, such as waste incineration and landfilling, and lay down minimum standards for these treatment methods.

Expected benefits include:

The benefits of the EU Waste law are manifold. It lays the framework for a waste management which minimises the risks for human health and the environment.

⁶ See for this also recital 2 of the Directive 2006/12/EC of the European Parliament and the Council of 5 April 2006 on waste (Waste Framework Directive).

⁷ See for this also recital 5 of the Waste Framework Directive.

The compliance with the waste management hierarchy and sound waste planning contributes to the reduction or even abolition of uncontrolled landfills and littering in wilderness areas. This, in turn, reduces:

- risks to human health;
- air emissions;
- polluted soils and groundwater;
- dangerous substances from industrial or hazardous waste in the environment;
- costs of restoring former waste disposal sites;
- negative effects on biodiversity;
- odours and breeding of rats.

Furthermore, the directives on specific waste streams foster the use of secondary materials, such as plastics or metals, and thereby contribute to resource savings. The treatment-oriented directives raise environmental standards and lower emission levels.

Furthermore, a sophisticated waste management creates jobs in the administration (planning and control of waste management) and in the operative field (waste collection and treatment). Some of these jobs are highly qualified especially when compared to the simple “dumping” of waste in uncontrolled landfills.

3 Expected Benefits of Convergence

Convergence toward EU waste legislation may bring a number of benefits to ENP partners by contributing to more sustainable waste management (collection and treatment).

The **Waste Framework Directive** sets the basic requirements for an environmentally friendly and sound waste management system. Convergence with this Directive could assist the ENP partners in establishing a functioning infrastructure for waste management. Waste management planning and a reliable system of waste collection and treatment can significantly contribute to a waste management system that minimises the waste-related risks to human health and the environment.

The **Hazardous Waste Directive** sets additional requirements for the management of hazardous wastes. Convergence with this Directive would alleviate the environmental and health-related pressures emanating from the current disposal practices of hazardous waste in many ENP partner countries. This Directive also assigns waste authorities with the responsibility for planning hazardous waste management.

The **Waste Shipment Regulation** implementing the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal sets specific requirements and restrictions for the shipment of waste in other countries, including countries that are not part of the EU. This serves to uphold the auto-sufficiency of each country, especially for the treatment of waste destined for disposal, and protects countries from being overrun by waste originating from other countries. Convergence with the Waste Shipment Regulation and effective control of waste shipments would alleviate risks and burdens connected to (hazardous) waste imports for the ENP partners.

In order to attain a certain environmental level of waste treatment, convergence of the ENP partner countries with the basic waste treatment Directives, the **Landfill Directive** and the **Waste Incineration Directive** is recommended. The Landfill Directive provides for a controlled disposal of waste on landfills featuring certain minimum requirements and contains stipulations for the after-care of landfills. Convergence with this Directive, therefore, would contribute to preventing the pollution of soil and groundwater and reducing the frequency of polluted sites in the ENP partner countries. A well-managed disposal of waste in landfills – instead of uncontrolled disposal – also lowers the risks of breeding vermin and odours.

In addition to the basic waste treatment Directives, convergence with the **Waste Incineration Directive** would reduce and control emission levels of waste incineration plants. This helps to ensure that the diversion of waste from landfills to waste incineration does not result in additional health and environmental hazards as, for example, excessive emissions of dioxins and furans.

Finally, convergence with the waste stream-based directives, like the **Directive on Packaging Waste, the Directive of End of Life Vehicles or the Directive on Waste Electric and Electronic Equipment** would increase the use of waste as a resource by way of recovery/recycling and may make some ENP partners less dependent on imports of primary raw materials, as metals, plastics, glass, paper, etc. This, however, would require the establishment of separate collection regimes managed by the producers of the respective goods or the state. Therefore, these three Directives constitute an advanced form of waste management.

4 Overview of EU Waste Policy

There is a large number of EU Directives and Regulations dealing with waste management. The most important directives will be described in the following sections.

Most importantly, the European framework of waste legislation has evolved along the following three lines:

- Basic rules for **waste management** in general (for all waste streams): Waste Framework Directive and Hazardous Waste Directive; Waste Shipment Regulation (see section 3.1 “Waste management in general”).
- Rules for specific **waste streams**: Example directives include those related to packaging waste, end-of-life vehicles, waste electrical and electronic equipment (WEEE), waste from extractive industries (see section 3.2 “Directives on specific waste streams”);
- Rules for specific **waste treatment modes**: Example directives include those related to landfills and waste incineration (see section 3.3 Directive on specific waste treatment modes”).

The following sections will outline the basic stipulations of EU Waste law.

4.1 Basic Rules for Waste Management

4.1.1 Waste Framework Directive

The Waste Framework Directive (WFD)⁸ is the “basic law” of EU Waste Policy. It dates from 1975 and was re-edited in 2006. The Directive is currently being amended and will be merged with the Hazardous Waste Directive and the Waste Oil Directive.⁹

The Directive lays down the basic hierarchy of waste management and waste treatment and contains basic requirements for the waste treatment installations. The Waste Framework Directive applies to all **waste streams** (with the notable exception of nuclear waste and some other specific waste streams¹⁰).

It establishes the so-called waste hierarchy, sets out rules for waste management planning, qualified waste collection and treatment and calls for obligatory permitting procedures for waste treatment plants. The WFD left the Member States two year to adhere to the requirements laid out by the Directive.

4.1.1.1 Waste hierarchy

One of the basic schemes of the WFD is the so-called **waste hierarchy** (see Art. 3 WFD). The primary aim of European Waste policy is the **prevention** and **reduction of waste production and its harmfulness**. This could be achieved by employing clean technologies that conserve the use of natural resources, by an environmentally friendly product design and by appropriate techniques for the final disposal of dangerous substances contained in waste destined for recovery.

⁸ Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste.

⁹ The proposal for an amendment to the WFD represents stipulations of the Thematic Strategy on the prevention and recycling of waste, see COM(2005)666.

¹⁰ Like dead animal cadavers, waste water, blasting agent.

The next-best option is

- **waste recovery**, by means of **recycling, re-use, reclamation or any other process with the goal of extracting secondary raw materials** or
- **the use of waste as a source of energy (“energetic recovery”)**

The WFD treats these two options as equally good, in contrast to some of the waste-stream-specific directives, which prescribe a certain minimum rate of recycling.

The last resort of waste management is the **sound disposal** of waste. Most importantly, this includes waste disposal in landfills but also – according to the current jurisprudence of the European Court of Justice¹¹ – the incineration of mixed household waste in waste incinerators.¹²

A general requirement of the WFD is that Member States shall take the necessary measures to ensure that waste is recovered or disposed of without endangering human health and without using processes or methods that could harm the environment, Art. 4 WFD(1). The Member States shall, moreover, take the necessary measures to prohibit the abandonment, dumping or uncontrolled disposal of waste, Art. 4 WFD(2).

However, with regard to the waste hierarchy, the Waste Framework Directive sets up a waste treatment philosophy that does not foresee any mechanism to effectively prevent non-compliance. In turn, the waste-stream-specific directives described below set legally binding targets that the European Commission can enforce (via an infringement procedure) for the recovery and particularly recycling of waste. For mixed waste, a similar legally enforceable obligation does not exist.

Member State practice:

One policy example of the Member States in line with EU waste hierarchy is the Danish waste tax in the field of construction waste, introduced in 1987. The disposal of waste in landfills is subject to the highest tax-level, followed by waste incineration without recovery of energy, followed by waste incineration recovering electricity, and waste incineration recovering electricity and thermal energy. The recycling of substances is not charged with the tax.

A large number of EU Member States have introduced landfill taxes designed to divert waste from landfills to other more sophisticated waste management methods. Germany does not have a waste disposal tax. However, it features one of the strictest waste disposal laws in the European Union. Furthermore Germany has announced the political objective to abandon municipal waste disposal in landfills by the year 2020 (goal 2020).

4.1.1.2 Competent Waste Authorities

Member States are required to establish or designate the competent authority or authorities responsible for implementing the Directive. Specified tasks include drawing up waste management plans, issuing permits and inspecting installations (Art. 6 WFD).

4.1.1.3 Waste management Planning

According to Art. 5(1) of the WFD the Member States have to make sure that an auto-sufficient network of waste disposal facilities exists in the European Union that comply with the best available technologies and does not feature excessive costs.

¹¹ See judgements of the European Court of Justice, 13. February 2003, C-228/00 and C-458/00.

¹² This latter point is subject to a current amendment procedure of the WFD, which might have the effect that waste incinerators that are energetically effective and produce thermal and electric energy will be considered waste recovery plants (“waste-to-energy” plants).

The competent authorities of the Member States are required to develop one or more **waste management plans (Art. 7 WFD)**. Such plans shall describe in particular:

- the type, quantity and origin of waste to be recovered or disposed of;
- the general technical requirements;
- any special arrangement for particular wastes; and
- suitable disposal sites or installations.

The plans may cover

- the natural or legal persons empowered to manage waste;
- estimated costs of recovery and disposal;
- appropriate measures to encourage rationalisation of collection, sorting and treatment.

The requirements on waste management planning under the WFD are complemented by more specific waste management planning requirements in the Hazardous Waste Directive and in the Packaging Directive.

The Waste Framework Directive is currently under review in the light of the Commission proposal (COM(2005)667) for a Directive on Waste that aims at setting recycling standards and obligating EU Member States to develop national waste prevention programmes.

Member States practice:

The Member States often develop national and regional/local waste management plans.¹³ Whereas national waste management plans are often of strategic nature, regional/local plans are more action-oriented, featuring detailed descriptions of current and planned collection systems, treatment modes and facilities, etc.¹⁴

4.1.1.4 Qualified waste collection and treatment

According to Art. 8 of the WFD, Member States shall take the necessary measures to ensure that any holder of waste:

- (a) has it handled by a private or public waste collector or by an undertaking which carries out the recovery or disposal operations; or
- (b) recovers or disposes of it himself in accordance with the requirements of this Directive.

Member State practice:

In general, most of the old EU Member States have a professional waste collection service, which is either run by the municipality (public waste management services) or by private companies commissioned with the waste collection services by the public waste authorities. National waste law often attributes a monopoly to these public waste collection services for the collection and treatment of particular waste fractions, particularly when it comes to the disposal of household waste.

4.1.1.5 Obligatory Permitting Procedure for Waste Treatment Plants

The WFD lays down **permitting requirements** to be observed by the competent authorities for waste treatment plants (recovery and disposal plants; see detailed stipulations in Art. 9–12 WFD). In addition, establishments or undertakings carrying out waste treatment shall be subject to appropriate periodic inspections by the competent authorities (Art. 13 WFD).

¹³ See EU Guide “Preparing a Waste Management Plan”, p. 7, see http://ec.europa.eu/environment/waste/plans/pdf/wasteguide_final.pdf (14 August 2007).

¹⁴ Ibidem.

Sound public waste management and permitting requirements for waste treatment facilities limit the negative environmental effects of waste management and increase public participation in the proceedings in local waste policy.

4.1.1.6 Polluter Pays Principle

The cost of disposing of waste must be borne by the holder who has waste handled by a collector or disposer; and/or by the previous holder or the producer of the product from which the waste came.

4.1.2 Hazardous Waste Directive

The Hazardous Waste Directive (HWD) lays down specific requirements for hazardous waste (i.e. specifically toxic, carcinogenic, etc. – waste normally originating from industry). It contains criteria for the elaboration of a hazardous waste list/waste catalogue, establishes a mixing ban and requires hazardous waste management planning.¹⁵

4.1.2.1 Hazardous Waste List/Waste Catalogue

The HWD does not include an enumeration of hazardous waste streams but empowers the European Commission to develop a hazardous waste list. The HWD provides abstract criteria for the completion of this list (see Annex III) and gives some indications as to which waste streams need to be considered when the Commission completes the list (Annex I and II). Furthermore, the HWD implies that this Commission-list might not be complete with all existing hazardous waste streams so that Member States are invited to add other wastes that display any of the properties (attributes) listed in Annex III to the Commission.

4.1.2.2 Identification of hazardous waste discharge sites

Member States shall take the necessary measures to require that on every site where tipping (discharge) of hazardous waste takes place the waste is recorded and identified (Art. 2 (1) HWD)

4.1.2.3 Mixing ban

Art. 2(2) of the HWD lays down **a mixing ban** for specific HW streams with other HW streams as well as with non-hazardous waste. Hence, the treatment of HW has, in principle, to be tailored for the respective HW streams. Most importantly, HW may not be mixed with the intention to dilute the hazardous properties of the waste and thus to re-define the respective waste stream. A permit for the mixing of waste can only be granted in exceptional circumstances, providing that the mixing is environmentally sound (see Art 4 of the WFD, see above) and especially fulfils the purpose of improving safety during disposal or recovery.

4.1.2.4 Hazardous Waste Management Planning

The Member States have to create **waste management plans for hazardous wastes**, laying down the methods for the treatment of HW. These hazardous waste management plans can be merged with the waste management plans for non-hazardous waste (according to Art. 5 of the WFD).

4.1.3 Waste Shipment Regulation

The Waste Shipment Regulation (WSR) sets limits to the shipment of waste within and out of the area of the European Union [Transfrontier Shipment of Waste (TFS)] for environmental reasons. The WSR implements the Basel Convention and OECD-Council decisions in the EU.

¹⁵ The Member States had over three years to adapt their legislation to the HWD.

The original Waste Shipment Regulation¹⁶ was fundamentally amended in 2006¹⁷, the new stipulations will take effect from 01 August 2007 and will be referred to in the following paragraphs.¹⁸

The controls on Transfrontier Shipments of Waste (TFS) aim to ensure a high level of protection for the environment and for human health. They also aim to prevent the unauthorised disposal of international waste shipments and the unregulated recovery of hazardous wastes, without hindering the legitimate trade of waste.

This guide cannot describe all the provisions of the WSR in detail but concentrates on the fundamental principles.

The WSR foresees two waste shipment control procedures:

- the procedure for prior written notification and consent: the procedure applicable to **all** shipments of waste **intended for disposal** and **hazardous and semi-hazardous waste intended for recovery (see for the latter “Amber List” in Annex IV and IV A of the WSR and Art. 3 (1)(b) of the WSR)**;
- the procedure in which shipments are accompanied by certain information, applicable to non-hazardous waste **intended for recovery (see “Green List” Annex III, IIIA and IIIB of the WSR)**.

The basic rule is that the trans-boundary shipment of all waste **destined for disposal** must be notified to and then authorised by the competent authorities, i.e. by the authorities of dispatch, destination and where appropriate transit (see the detailed stipulations of Art. 4ff WSR). The authorisation can be refused based on the reasons for objections to waste shipments laid out in Art. 11. One of these reasons is that the planned shipment or disposal would not be in accordance with measures taken to implement the principles of proximity, priority for recovery and self-sufficiency at Community and national levels in accordance with the Waste Framework Directive. This reason constitutes a very “general” reason to oppose shipment of waste for disposal based on which virtually every shipment of waste destined for disposal can be refused. **Mixed municipal waste** (household waste, etc.) generally follows the rules of waste to be disposed of (Art. 3 para 5 WSR), giving authorities the power to refuse the trans-boundary shipment of mixed household waste. The export of waste destined for disposal out of EU territory is forbidden (exception: EFTA states which are also parties to the Basel Convention under certain circumstances), see Art. 34 WSR.

Waste **listed in the “Amber List” and destined for recovery** principally follows the rules of waste for disposal. The reasons for objections against the shipment of this kind of waste are, however, enlisted in Art. 12.

The trans-boundary shipment of **waste listed in the green list and destined for recovery** need not be notified to nor authorised by the authorities. Only a few administrative information requirements apply (see in detail Art. 18).

The export of waste destined for recovery out of EU territory is subject to a multitude of restrictions, the description of which is beyond the scope of this study (see Art. 36ff WSR).

4.2 Rules for specific waste streams (“recycling/recovery directives”)

Even though the Waste Framework Directive establishes a basic waste hierarchy, there are no legally binding and enforceable obligations to recover mixed solid waste in the Waste Framework Directive, nor in the Hazardous Waste Directive, as the hierarchy signifies only a political “target” and is not enforced through binding recycling/recovery rates.

¹⁶ Council Regulation (EEC) No. 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community.

¹⁷ REGULATION (EC) No 1013/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of 14 June 2006 on shipments of waste.

¹⁸ The original Waste Shipment Regulation had to be applied by the Member States 15 months after its publication.

By contrast, a number of directives **regarding specific waste streams** have been enacted at the European level in recent years. These directives concern the following waste streams:

- packaging waste;
- end-of-life vehicles;
- batteries;
- electric and electronic waste;
- waste from extractive industries.

All of these Directives reflect the **waste management hierarchy** designed by the Waste Framework Directive by giving priority to the prevention/reduction of the specific waste and as a second-best option the recycling or recovery.

Another common feature of the directives cited above is that the waste streams addressed by these directives are supposed **to be treated separately** and that **specific recycling and recovery targets** are prescribed. Recycling signifies reprocessing in a production process of the waste materials for the original purpose or for other purposes including organic recycling but excluding energy recovery. Recovery is a broader term than recycling that includes all operations listed in Annex II B of the Waste Framework Directive, i.a. energy recovery (e.g. waste incineration using waste as a fuel) and recycling. In contrast to the Waste Framework Directive, the waste-specific directives do not treat recycling and energetic recovery as equal but lay down a minimum target for **recycling**, thus regarding it the more “valuable” way of using the materials as a resource.

With the help of these specific requirements, the disposal of the mentioned waste streams in landfills is very much limited by the directives.

4.2.1 Directive on Packaging Waste

The specific waste stream of packaging waste is subject to the Directive on Packaging Waste (PWD)¹⁹.

SCOPE: Packaging waste comprises waste of all products made of materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from producer to the user or the consumer. Art. 3 of the PWD contains a more detailed definition of the sort of packaging waste covered by the PWD.

REDUCTION: Member States shall first of all ensure that packaging waste is reduced (e.g. by limiting the packaging of consumer goods).

RECOVERY AND RECYCLING OBJECTIVES: As a further measure Member States have to enhance the reuse and recovery/recycling of the packaging waste (Art. 5–7 PWD) and have to comply with the recovery/recycling quota mentioned below. Member States may encourage reuse systems of such packaging that can be reused in an environmentally sound manner (Art. 5 PWD)

Member States shall, furthermore, take the necessary measures to ensure that **systems** are set up to provide for

- a) the returns and/or collection of used packaging** from the consumer, other final user, or from the waste stream in order to channel it to the most appropriate waste management alternatives;
- b) the reuse or recovery** including recycling of the packaging and/or packaging waste collected, in order to meet the objectives laid down in this Directive. These systems shall be open to the participation of the economic operators of the sectors concerned and to the participation of the competent public authorities. (see Art. 7)

¹⁹ European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste, Official Journal L 365, 31/12/1994, p. 0010-0023.

The recovery and recycling targets for packaging waste are as follows:

Treatment mode	Parameter	Quota 2001–2008	Quota from 31 December 2008
Recovery	Overall	50% (min)–65% (max)	60% (min)
Recycling	Overall	25% (min)–45% (max)	55% (min)–80% (max)
Recycling	Glass	15% (min)	60% (min)
Recycling	Paper	15% (min)	60% (min)
Recycling	Metals	15% (min)	50% (min)
Recycling	Plastics	15% (min)	22,5% (min)
Recycling	Wood	15% (min)	15% (min)

Member States Practice

Germany and Austria have passed Packaging Waste Ordinances and have established privately run and privately financed packaging recycling organisations.

The costs for the recovery/recycling of the packaging waste are included in the price for the respective consumer good, which is labelled “Grüner Punkt” (Green Point). The recovery rate of packaging waste amounted to 78,4% and the recycling rate to 69,9% in 2004.²⁰ This means that between the date of introduction of a legal framework stipulating the separate collection and reuse/recovery/recycling of packaging waste in 1991 and 2004 the recycling/recovery rate doubled from 39,2 to 78,4%.²¹

In order to promote recycling of waste packaging and to prevent the littering of the countryside with beverage cans and other beverage packaging, Germany levies a **deposit** on all beverage cans and not environmentally friendly beverage packaging (e.g. plastic bottles) to be refunded after the cans have been handed in to recycling points (in supermarkets, etc.). Since this deposit was introduced, the waste stream of beverage cans has all but disappeared in Germany.²²

In the **UK**, businesses have a choice of how to comply with the requirements of the PWD. They can either do everything themselves and purchase evidence of compliance to show they have met their obligations; or they can join a registered compliance scheme. A scheme takes on the legal recycling obligations for a business and carries them out for it. There are currently 21 compliance schemes.²³ According to information by DEFRA, the U.K. system has been successful in increasing the levels of packaging waste recovered and recycled from 30% in 1997 to 55.6% by 2004.²⁴ In real terms, the total amount of packaging waste recovered and recycled in 1998 was 3.3 million tonnes; in 2004, it was almost 5.65 million tonnes therefore over 2.3 million tonnes of additional packaging waste was diverted from landfill in 2004 compared with 1998.

According to information by the European Commission, in 2004 the **EU-25** average rate of packaging recovery and incineration at waste incineration plants with energy recovery was 65,6%, and the average recycling rate was 53,9%. The following average recycling rates were achieved for the different packaging materials: glass: 58%, paper and board: 70,4%, metals: 57% and plastics: 24,6%.²⁵ All old Member States have set up return, collection and recovery systems for packaging waste. Most have adopted measures aiming to encourage the use of recyclable material.

²⁰ <http://www.env-it.de/umweltdaten/public/theme.do?nodeId=2315> (27 February 2007).

²¹ <http://www.bmu.de/abfallwirtschaft/doc/37498.php> (9 March 2007).

²² <http://www.ksta.de/html/artikel/1146473999709.shtml> (9 March 2007).

²³ <http://www.defra.gov.uk/Environment/waste/topics/packaging/faq.htm> (27 February 2007).

²⁴ <http://www.defra.gov.uk/environment/waste/topics/packaging/pdf/packagewaste06.pdf>, p. 18 (1 November 2007).

²⁵ <http://ec.europa.eu/environment/waste/packaging/data.htm> (24 August 2007).

4.2.2 Directive on End-of-life vehicles

Collection and treatment of end-of-life vehicles is subject to the Directive on End-of-life vehicles (ELV Directive).

SCOPE: The ELV Directive deals with “waste cars”, which are defined in Article 2 No. 1 and 2 (cars of M1 and N1 category).

WASTE REDUCTION: The ELV Directive²⁶ in Art. 4 appeals to the economic actors to reduce ELV waste by using resource-effective materials, eliminating hazardous substances from cars and incorporating increasing amounts of recyclates in vehicle design. Apart from this, the ELV Directive also contains the **bans of certain materials** used in the construction of cars or for spare parts. These bans will not be described in this guide.

RECYCLING AND RECOVERY TARGETS: The End-of-life-vehicle-Directive (ELV D) lays down requirements for the collection and treatment of end-of-life vehicles. The two basic innovations of the ELV Directive are:

- **Cost-free take back system for ELV** to be run by producers and other economic actors (as from 1 January 2007 for all cars);
- **Recycling and recovery targets** for ELV treatment.

Art. 5 of the ELV Directive obliges the Member States to take the necessary measures to ensure

- that **economic operators set up systems for the collection of all end-of life vehicles** and, as far as technically feasible, of waste used parts removed when passenger cars are repaired,
- the adequate **availability of collection facilities** within their territory.

All ELVs shall be transferred to authorised treatment facilities. An ELV may be de-registered only upon submission of a certificate of destruction as a token that the car has been handed over to an authorised treatment facility and is managed (stripped, depolluted, shredded and treated) in accordance with the requirements of the ELV Directive. Member States that do not have a de-registration system must otherwise ensure that the authorities are notified about the ELV reaching a treatment facility.

The treatment facility has to comply with the minimum treatment requirements laid down in Article 6 and Annex I of the ELV D. As from 1 January 2006 for all end-of-life vehicles, the reuse and **recovery** shall amount to a minimum of 85% by an average weight per vehicle and year. Within the same time limit the reuse and **recycling** shall be increased to a minimum of 80% by an average per vehicle and year. These targets increase to 95% and 85% respectively by 1 January 2015.

PRODUCER RESPONSIBILITY: The principle of the producer responsibility is the core mechanism introduced in the Directive. Although the Directive is addressed to Member States, it is the producers or third parties acting on their behalf that are responsible for collection, treatment, recovery and environmental disposal.

4.2.3 Directive on waste electrical and electronic equipment

The Directive on Waste Electrical and Electronic Equipment (WEEE Directive) is the most recent of the stream-based waste directives.

SCOPE: The electrical and electronic equipment is defined as equipment dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields falling under the categories set out in Annex IA and designed for use with a voltage below 1000V AC and 1500V DC.

²⁶ Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end of life vehicles, Official Journal L 269, 21.10.2000, p. 34.

WASTE REDUCTION: The Directive on Waste electrical and electronic equipment²⁷ (hereinafter WEEE Directive) prescribes in Art. 4 that Member States shall encourage the design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery, in particular the reuse and recycling of WEEE, their components and materials.

SEPARATE COLLECTION, RECYCLING AND RECOVERY TARGETS: Member States shall adopt appropriate measures in order to minimise the disposal of WEEE as unsorted municipal waste and achieve a high level of separate collection of WEEE. The Directive requires Member State to create systems allowing final holders and distributors to return WEEE free of charge. The WEEE Directive prescribes four kilograms on average per inhabitant per year of WEEE from private households as **a minimum rate of separate collection** (Art. 5 No. 5 WEEE). This mandatory target shall be revised in 2008.

The treatment shall at a minimum include the removal of all fluids. The Directive fixes also specific recycling and recovery targets, which vary among the specific categories of equipment.

Electronic waste stream	Recycling	Recovery
Large Household Appliances Automatic Dispensers	75%	80%
IT and telecommunications equipment Consumer equipment	65%	75%
Small household appliances Lighting equipment Tools Toys, leisure and sports equipment Monitoring and control instruments	50%	70%
Gas discharge lamps	80%	–

TREATMENT

To guarantee environmentally sound treatment of the separately collected WEEE, the WEEE Directive lays down treatment requirements in Annex II for specific materials and components of WEEE and Annex III lays down requirements for the treatment and storage sites.

PRODUCER RESPONSIBILITY: The principle of producer responsibility is the core mechanism introduced in the Directive. Whereas the Directive is addressed to Member States, it is the producers or third parties acting on their behalf that are responsible for collection, treatment, recovery and environmental disposal. They have a responsibility for the financing, the labelling, the organisation, the collection and providing of information.

4.2.4 Directive on the management of waste from extractive industries

The Directive on the management of waste from extractive industry is a very recent directive passed in 2006. It aims at preventing or minimising environmental and human health effects both from the day-to-day operation of extractive waste facilities as well as accidents.

SCOPE: The Directive on the management of waste from extractive industries applies to waste resulting from the extraction, treatment and storage of mineral resources and the working of quarries. Waste covered by this Directive no longer falls within the scope of Directive 1999/31/EC on the landfill of waste.

REDUCTION/RECYCLING/RECOVERY: Member States must ensure that waste facility operators draw up a waste management plan to be reviewed every five years. The objectives of the plan must be as follows:

- to prevent or reduce the generation of waste and its negative impact;
- to encourage waste recovery through recycling, re-use or reclaiming;
- to encourage the short and long-term safe disposal of waste.

²⁷ Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE).

The waste management plan must include at least the following:

- a description of the waste and its classification, a description of the substances used to process the mineral resources, the method of disposal and the system used for waste transport;
- a description of the operation generating this waste;
- the control and monitoring procedures;
- where applicable, the classification of the waste facility;
- the closure plan and the after-closure procedures;
- measures for the prevention of water and soil pollution;
- a survey of the condition of the land to be affected by the waste facility.

CONSTRUCTION AND MANAGEMENT OF EXTRACTIVE WASTE FACILITIES: Waste from extractive industries must be managed in specialised facilities in accordance with specific rules laid down in the Directive.

When a new waste facility is built or an existing one modified, the competent authority must satisfy itself that:

- the facility is suitably located;
- its physical stability is ensured and soil and water pollution are prevented;
- it is monitored and inspected by competent persons;
- arrangements are made for the closure of the facility, the rehabilitation of the land and the after-closure phase.

The Directive provides for classification of the high-risk facilities as 'Category A' subject to requirements specific to a major-accident prevention policy. This predetermines their mode of operation and the security measures to be taken in compliance with the Directive (not outlined in this study).

The competent authority must satisfy that waste facility operators have taken the measures necessary to prevent water and soil contamination, in particular by:

- evaluating leachate generation²⁸;
- preventing leachate generation and preventing surface water or groundwater from being contaminated by the waste;
- treating contaminated water and leachate in order to ensure their discharge.

When placing extractive waste back into the excavation voids for rehabilitation and construction purposes, operators must take appropriate measures to secure the stability of the waste, monitor it and prevent soil and water pollution.

INSPECTIONS, RECORDS AND REPORTS: The competent authority must inspect waste facilities at regular intervals, including after their closure. Operators are required to keep up-to-date records of all waste management operations and to make them available for inspection by the competent authority.

Member States must ensure that an inventory of closed waste facilities, including abandoned waste facilities, located in their territory is drawn up and periodically updated. This inventory should include facilities that currently have serious negative environmental impacts or have the potential of becoming a serious threat to human health or the environment in the short or medium term.

²⁸ Leachate means any liquid percolating through the deposited waste, including polluted drainage.

4.3 Rules for specific waste treatment modes

The Directives on specific waste treatment modes lay down minimum requirements for the sound treatment of certain types of waste.

4.3.1 Landfill Directive

The Landfill Directive intends to promote compliance with the waste hierarchy in that it bans certain waste streams from being put to landfills. In this sense **it limits the options for waste disposal on landfills**.

Most importantly, Member States have to **formulate strategies on how to reduce biodegradable waste going to landfills**. Art. 5(2) sets the following targets:

Biodegradable municipal waste going to landfills must be reduced to a certain proportion of the total amount (by weight) of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available:

- to 75% by 16 July 2006;
- to 50% by 16 July 2009;
- to 35% by 16 July 2016.

Member States that put more than 80% of their collected municipal waste to landfill in 1995 (or the latest year before 1995 to which standardised EUROSTAT data is available) may postpone the attainment of the targets by a period not exceeding four years.

One of the main purposes and benefits of the reduction of biodegradable waste from landfill is to reduce the methane emissions, an important cause of the greenhouse effect and far more harmful to the climate than CO₂.

The Landfill Directive, moreover, bans a series of specific waste streams from landfills (see Art. 5(3)).

In Art. 6 lit. a.) the Landfill Directive stipulates that only waste that has been subject to treatment may be landfilled (except for inert waste). The treatment should reduce the quantity of the waste or the hazards to human health and the environment.

The Landfill Directive lays down legal standards for landfills. If these requirements are not fulfilled, the landfills have to be shut down. The Landfill Directive establishes three categories of landfills that need to comply with different requirements:

- Landfills for inert waste (category 0)
- Landfill for non-hazardous waste (category I and II)
- Landfill for hazardous waste (category III and IV).

Detailed criteria for the acceptance of waste in the various landfill categories are laid down in Council Decision 2003/33.

The Directive, furthermore, contains requirements for the licensing, maintenance, the closure and the after-care of the landfills.

As a consequence, landfills that do not feature the basic requirements (e.g. a firm baseline that prevents residual water of the landfill from polluting ground water) must be closed and after-care requirements must be fulfilled.

4.3.2 Waste Incineration Directive

The objective of the Waste Incineration Directive (WI-D) is to prevent or to limit as far as practicable negative effects on the environment, in particular pollution by emissions into air, soil, surface water and groundwater due to waste incineration.

SCOPE: The Waste Incineration Directive lays down emission limit values for installations that incinerate or co-incinerate waste.

PERMIT REQUIREMENT: WI-D stipulates that no incineration or co-incineration plant shall operate without a permit to carry out these activities. The application for a permit shall include a description of the measures that should guarantee that:

- the plant is designed, equipped and will be operated in such a manner that the requirements of this Directive will consider the categories of waste to be incinerated;
- the heat generated during the incineration and co-incineration process is recovered as far as practicable, e.g. through combined heat and power, the generation of process steam or district heating;
- the residues will be minimised in quantity and harmfulness and recycled where appropriate;
- the disposal of the residues which cannot be prevented, reduced or recycled will be carried out in conformity with national and Community legislation.

The Directive lists further requirements for the permits to be issued (e.g. compliance with measurement standards as laid down in Annex III, concrete outlook which quantity of waste streams may be incinerated, etc.).

OPERATING CONDITIONS OF THE WASTE INCINERATION PLANT: The incineration plant shall be operated in order to achieve a level of incineration such that the slag and bottom ashes Total Organic Carbon (TOC) content is less than 3% or their loss on ignition is less than 5% of the dry weight of the material. Moreover, the Directive stipulates requirements for the incineration process (minimum temperature for hazardous and non-hazardous waste, gas treatment, etc.).

The Directive lays down **minimum emission limit values** for exhaust and wastewater for waste incinerators and co-incineration plants. These requirements have to be checked against the requirements of the IPPC Directive, which stipulates that a large number of types of waste incineration plants and co-incineration plants need to be permitted according to the Best Available Techniques (BAT).



5 Current situation with respect to Policy Sector

The following section describes the current situation with respect to waste management of the ENP partners.

5.1 EU's Eastern ENP partners and Russia

The waste sector in most European neighbouring countries and Russia has been subject to a transformation process. In the **ENP Action Plans** of these countries, the adoption of legislation and planning for waste management as a key environmental concern are one of the primary objectives (see ENP Action Plans for Armenia, Azerbaijan, Georgia, Moldova, Ukraine).

The following environmental pressures are common:

- No widespread reduction or recovery policy for waste;
- Uncontrolled waste dumping;
- No sound treatment of hazardous waste;
- Problems with illegal transboundary movement of waste;
- Illegal imports of hazardous waste.

5.2 EU's Mediterranean Partners

As far as the Mediterranean Partners are concerned, waste management plays a role in most of the existing ENP Action Plans, including the ones in Egypt, Israel, Morocco, Palestinian Authority, Tunisia. Principally, the Mediterranean Partners face similar challenges as the East-European Neighbouring Countries and Russia to which can be added:

- Frequent absence of sound waste management services;
- Existence of an "Informal" recycling sector²⁹.

²⁹ This implies informal "workers" who search waste bins for valuable materials and sell these materials to intermediates or small companies, which "recover" these materials. The activities of these informal "workers", who often operate secretly on ground that is not theirs, is often not approved by the state and private households, nor does it comply with hygienic standards.

6 Implementation Considerations for ENP Partners and Russia

EU funding for ENP

From the beginning of the new Financial Framework 2007–2013, the EU is providing financial support for the ENP through a dedicated **European Neighbourhood and Partnership Instrument (ENPI)**. It targets various areas of co-operation including sustainable development and the environment, supporting jointly agreed reform priorities in the ENP Action Plans. The ENPI will target sustainable development and convergence with EU policies and legislation, and bring a radical improvement in capacity to support cross-border cooperation along the EU's external borders – thus giving substance to the aim of avoiding the creation of new dividing lines and promoting harmonious territorial development across the EU external border. The ENPI replaces MEDA (for the Southern Mediterranean neighbours) and TACIS (for the Eastern neighbours and the Russian Federation).

Guided by the agreed priorities in the ENP Action Plans, the ENPI provides for assistance under national, regional, cross-border and interregional programmes. There are also a certain number of thematic programmes with global scope from which the ENPI countries can benefit. This includes a thematic programme for environment and sustainable management of natural resources including energy.

The ENPI budget is fixed at around € 12 billion for the period 2007–2013. In real terms it means an increase of 32% as compared with the previous financial framework.

As a means of delivering technical assistance under the ENP, the **Technical Assistance and Information Exchange (TAIEX) instrument** and long-term **twinning** arrangements have been made available to the ENP partner countries:

- **TAIEX** provides technical support and training in areas related to the implementation of the ENP Action Plans, including with regard to the convergence, application and enforcement of legislation. It is largely demand driven and channels requests for assistance and contributes to the delivery of appropriate tailor-made expertise to address problems at short notice³⁰.
- **Twining** aims to help beneficiary countries in the development of modern and efficient administrations. It can also facilitate gradual convergence to EU legislation where relevant and appropriate.

Depending on the status quo (“starting point”) of each country, a step-by-step approach could be suitable to improve the environmental quality of waste management.

6.1 Waste Management as a Matter of Public Interest

6.1.1 Designation of Waste Authorities and Waste Management Planning

The first basic step for a state to deal with waste management in an environmentally sound manner is to declare waste management a **matter of public interest** regardless of whether waste management is ultimately carried out by the state or private company.

³⁰ <http://taix.ec.europa.eu/>

Many ENP partner countries are in the process of administrative restructuring and in those countries public waste authorities have to be designated that are clearly responsible for developing a system of waste management that minimises negative impacts to the environment and human health. Waste authorities then have to develop a waste policy consisting of basic strategic choices and technical day-to-day management of the waste streams in the state.

In order to prepare and control the proper management of waste, these authorities have to acquire an overview of the quantities and qualities of the wastes produced in the states and have to devise options for waste collections and treatment. To gain such an overview, waste management planning has to be employed.

The plan would include an overview of waste flows and existing “official” waste treatment sites. Such a “status-quo” plan would be the basis for the development and/or improvement of a waste policy, including strategic choices such as the future method of waste collection/treatment of waste. Depending on the status quo of the countries, the waste authorities would need to identify priority areas of action addressing the most urgent waste-related problems. Chapters 6.2–6.5 give an overview of the most common problems and how they could be addressed with help of drawing on the EU waste legislation.

6.1.2 Installation of a waste collection service and fines against littering

One of the basic reasons for insufficient waste management resulting in waste in the streets (“littering”) are:

- Absence of an effective waste collection service;
- High prices for waste collection;
- Lack of awareness of a proper environment.

Waste in the street was identified as a waste related problem in many ENP partners which causes serious hygienic problems, including the creation of an environment conducive to infestation by rats and other vermin, odour and the risk of contamination of soil and groundwater. For these reasons, the reduction of littering must be a priority for those countries where garbage on the street is widespread.

In order to transform the present situation of uncontrolled waste disposal into a publicly managed waste scheme, the blueprint of the **Waste Framework Directive**, in connection with requirements of the Landfill Directive/Waste Incineration Directive, could be helpful in guiding the authorities.

A fundamental requirement for ecologically sound and socially acceptable waste management is the professional collection and treatment of waste produced in a local community to be organised by the public authorities.³¹

In turn, any “informal” waste recycling, e.g. extraction of valuable goods from landfills or public/private waste bins by non-authorised persons should be suppressed. The exclusive assignment of waste management activities to competent public waste management services or private waste management firms should guarantee that waste is collected in a professional manner. In addition, all waste treatment, including recycling, should be carried out in installations that have been permitted to ensure compliance with legally established environmental and health standards.

In order to combat littering from negligence of the population, littering could be categorised as a misdemeanour and subject to fines, of course requiring the political will and the resources to collect the fines.

³¹ The actual operative collection can be carried out either by public services or private firms commissioned by the waste authorities.

6.2 From uncontrolled landfills to controlled landfills

6.2.1 Landfills in the waste management plans

The existence of uncontrolled landfills has been identified as a core problem for most of the Eastern European and Mediterranean neighbours as well as Russia.

In order to improve this situation, waste authorities would first need to inventory existing uncontrolled landfills, categorising them according to their potential impact to the environment. The waste authorities then would need to push for the gradual closure of the uncontrolled landfills with a high risk to human health and the environment. Over a transition period and to taking account of economic realities in the respective states, inert waste could be put on these landfills preparing their closure.

The introduction of a legal obligation like a permit for all legally operated landfills and the imposition of certain minimum environmental requirements via these permits could significantly reduce negative environmental pressures and would lead – after an adequate transition period, which will be indispensable for economic reasons – to the closure of many uncontrolled landfill sites. The requirements of the **Landfill Directive** and the Decision on Waste Acceptance Criteria could serve as guidelines for a landfill management plan.

In the long run, uncontrolled landfills need to be replaced by landfills complying with basic environmental requirements such as leachate collection, bottom sealing, gas collection and hazard control, leading to a restriction of landfill sites and a reduction of uncontrolled emissions. This shift would require a substantial investment into infrastructure, as well as trained personnel to inspect the landfill sites and to ensure compliance of these landfills with all standards. This all contributes to a sharp rise of the costs of landfilling.

6.2.2 Landfills for hazardous waste

A highly urgent measure is also the closure of wild disposal sites for hazardous (“industrial”) wastes that have a far higher polluting potential for soil and groundwater than non-hazardous waste. As these wild disposal sites for hazardous wastes are common in many Eastern and Mediterranean states, the transfer of the hazardous waste from wild sites to official (permitted) landfills would be a high priority.

It is, moreover, of paramount importance to **ban hazardous wastes** from standard household waste landfills and construct landfills exclusively for hazardous waste. The requirements of the **Landfill Directive**, which stipulates different Landfill Classes including Class III for hazardous waste, can serve as a guideline for the construction and operation of such hazardous waste landfills.

Furthermore, the development of hazardous waste management plans as stipulated in the **Hazardous Waste Directive**, which could be part of general waste management plan, is recommended.

6.3 Exclusion of certain waste streams from “legal” landfills

Even if the Eastern and Mediterranean neighbours and Russia want to continue to use waste disposal in landfills as their major waste disposal practice, another highly important step would be to exclude certain waste streams from landfills.

The exclusion of certain waste streams from landfill can concern waste streams that are

- suitable for recycling or energetic recovery and/or
- responsible for the lion's share of greenhouse gas emissions from landfills, such as organic waste.

One condition for the diversion of certain waste streams from landfills to other treatment modes is a priori separate collection of these waste streams or the ex-post extraction of the waste streams from the mixed waste. With the level of technology progressing, such ex-post sorting technology might soon be available and the introduction of elaborate separate collection schemes might be dispensable.

This would, however, require the political will to invest in high-level recycling technology and to accept higher waste fees as sophisticated waste management concepts, including a high rate of recycling, are in most cases more costly than simple landfilling.

It is of primary importance that the products of any recycling and recovery processes can be marketed and thus can contribute to a lowering of waste management costs. Therefore, policy makers should promote secondary product and energy from waste-to-energy installations to assure that they can be sold and used. Thus, public campaigns and public procurement should raise awareness of waste as a resource.

6.3.1 Promotion of recovery and recycling of certain waste streams

Even if the operation of officially permitted landfill is preferable to unregulated waste dumping, waste disposal in landfills is still considered the least environmentally sound way of waste “treatment”. Resources contained in the different waste streams are lost by “burying” them in landfills, often becoming polluted sites after their closure.

Thus, the recycling and recovery of waste is largely preferable to waste disposal in landfills, as established in the Waste Hierarchy of the Waste Framework Directive (see Art. 3 WFD).

The promotion of waste recycling and energy recovery serves the following aims:

- Use of waste as a resource and production of secondary materials and energy;
- Limitation of territories needed as landfill and reduction of polluted sites.

A secondary effect of extensive recycling and recovery is also the creation of jobs, as even official landfills require fewer employees than recycling or waste-to-energy installations.

Elements of the waste-stream directives dealing with packaging waste, end-of-life vehicles or electronic waste can serve as guidelines as to which waste streams might be diverted from landfills to recycling and recovery plants.

6.3.2 Ban of organic waste from landfills to reduce greenhouse gas emissions

Organic waste landfilled is responsible for methane emissions from landfills that are very harmful to the climate. Thus, in the interest of climate protection, biowaste, waste wood, sewage sludge should be banned from landfills and diverted to suitable treatment plants, such as fermentation or composting.

6.4 Promote controls of waste shipments in accordance with the Basel Convention

An effective control of waste shipment by the authorities of the exporting and the importing countries is indispensable to achieve a reduction of the masses of hazardous waste shipped illegally to other countries. Such a reduction of waste imports also alleviates the pressure for the authorities of the countries importing waste to find a proper way to deal with these waste streams. Instead, the exporting countries need to devise strategies to treat their own waste in a proper way.

The Basel Convention on the Control of Transboundary movements of Hazardous Wastes and their Disposal³², to which virtually all of the ENP are parties, constitutes the framework to reduce transboundary movements of hazardous wastes and other wastes to a minimum consistent with their environmentally sound management.

³² This Convention was adopted on 22 March 1989 by the 116 States participating in the Conference of Plenipotentiaries on the Global Convention on the Control of Transboundary Movements of Hazardous Wastes.

An effective implementation of the requirements of the Basel Convention by the ENP would very much help limit the undesired imports of hazardous and other wastes into the Eastern and Mediterranean Partners as well as Russia. The European Waste Shipment Regulation could serve as a blueprint for a sound national or trans-national legislation implementing the Basel Convention and laying down the exact procedures and conditions to be complied with when hazardous and other waste is shipped from one state to another.

6.5 Flexible Instruments to achieve the diversion of waste streams from landfills to other treatments

A variety of instruments exist to achieve a reduction of waste disposed in landfills. Basically, landfills are considered to be the lowest level of waste disposal. However, the diversion of waste to other treatment methods as waste incineration can also create environmental or health related problems when the waste treatment installations are not equipped with sound technology for emission abatement (for example the emission of dioxins) and not managed in an expert manner.

One option is command and control measures that have, for example, been employed by Denmark (ban of combustible waste in landfills), Germany (ban of waste wood and waste featuring a TOC > 5%) or Austria (ban of waste featuring a TOC > 3%). These options prohibit the landfilling of specific waste streams. These options are predominantly taken for waste with a high organic content and thus responsible for greenhouse gas emissions. Also, the Landfill Directive obliges Member States to reduce waste in landfills that feature a high organic content.

Another possibility is to employ economic incentives that reduce the economic attractiveness of waste disposal in landfills and increase the appeal of recycling. One example is the landfill tax, currently imposed only on national level without any EU-related obligations. The landfill tax is intended to reduce the overall masses of waste destined for landfills via price mechanisms.

Another option, which can be described as a mixture between command-and-control and economic incentives, are producer responsibility measures (such as the Packaging Waste Directive, the ELV Directive or the WEEE Directive). These measures oblige the producers, importers and retailers to achieve certain collection and reuse/recycling/recovery targets for specific waste streams. Still, these measures do not prohibit completely the disposal of certain parts of these waste streams in landfills, but stipulate legally binding minimum rates of recovery and recycling of these waste streams. The producers, retailers and importers of the different goods are free in their choice of instruments to achieve this aim.

6.6 Legislative Considerations and Mechanisms in the Context of Implementation

ENP Partners and Russia could considerably benefit from the adoption of some of the principles outlined in the European Waste Law. To this end, there is often a need for ENP to develop or renew:

- national waste management policy and waste management plans;
- waste framework legislation;
- sustainable waste management systems;
- waste classification and inventory systems.

In order to guarantee that the newly developed/renewed policies and concepts are also put into practice, it is of primary importance that control and implementation mechanisms work well. For this, the following instruments need to be in place:

- control mechanisms;
- physical infrastructure;
- institutional capacity, public participation and access to information;
- awareness-raising and training;

- economic instruments and financing tools, management of trans-boundary movement of wastes and effective mechanisms for international co-operation and convergence in relation to EU waste legislation.

Apart from these aspects (indispensable for a sustainable waste management system), further challenges to convergence lie in the costs that an advanced waste management system triggers. Not only are additional administrative and operational personnel needed to guarantee a solid waste management service, but advanced technology has to be applied as well.

6.7 Cost Estimations with regard to Implementation

Solid waste treatment of residual waste can increase costs for citizens. Exact costs and prices **cannot** be given in this guide; however, some estimations can be given.

The price for waste disposal in landfills that are properly operated and comply with the Landfill Directive and are not subject to a landfill tax are rated on average at 75–150 Euro/ton in Germany.³³ The costs for operating landfills not complying with these standards are of course much lower, as will be the case in most of the landfills in the countries covered in this guide.

If the residual waste is pre-treated in Mechanical-Biological Treatment Plants (MBT), prices (Germany) range between 50 and 90 Euros³⁴ for the treatment, plus the costs for the landfilling of the waste that remains after the treatment (normally fermentation or composting, about 30% of the input). The highly calorific waste separated in MBT (about 20–30% of the input) can be co-incinerated in an industrial plant (cement mill, power station). This treatment has to be paid for by the waste manager at about 25–40 Euro/ton. Thus, the sum of costs for the treatment for 1 ton of waste can be estimated at 80–140 Euro.

The thermal treatment of residual waste in a waste incineration installation that complies with the Waste Incineration Directive can be priced between 100 and 140 Euro/ton on average.³⁵

6.8 Lessons learned

Many elements of the EU waste legislation are apt to improve the waste management situation in the Eastern and Mediterranean Neighbouring Countries and Russia.

It is obvious that it is neither realistic nor necessary to apply all EU waste legislation at once in the region of Eastern and Mediterranean Countries and Russia. As the region is not homogenous, a step-by-step approach according to concrete “starting points” with regard to waste management within these countries could turn out to be most useful.

Those countries that do not yet feature a dependable public waste management system should start off with implementing the basic requirements of a sound general waste management planning and the enforcement of these plans.

Those countries already featuring a well-working public/private waste management service and exclusively “legal” landfills could tighten the environmental standards of landfilling, introduce recycling/recovery targets and benefit from the EU-experience with different waste streams.

³³ See Nassour/Legler, Integration von vorhandenen Anlagen zur Restabfallbehandlung ab dem Jahr 2005, in Müll und Abfall 2003, p. 223.

³⁴ Ibidem.

³⁵ See the value of 130 Euro, which the EU-project HOLIWAST assumed for waste incineration: http://www.lca-net.com/holiwast/542jhw/1/costs_operators/.

7 Literature and Further Reading

Homepage "Waste" of the European Commission, <http://ec.europa.eu/environment/waste/index.htm> .
Short description of all European pieces of waste legislation: <http://europa.eu/scadplus/leg/en/s15002.htm>.
Communication from the Commission to the Council, the European Parliament. The European Economic and Social Committee and the Committee of the regions: Taking Sustainable use of resources forward: A Thematic Strategy on the prevention and recycling of waste {COM(2005) 666 final}
Convergence with European Environmental Legislation in Eastern Europe, Caucasus and Central Asia Guide, European Communities, 2003
Best Available Techniques Reference Documents for Waste Incineration and Waste Treatment, <http://eippcb.jrc.es/pages/FAactivities.htm> .
Strategie für die Zukunft der Siedlungsabfallentsorgung, Federal Environmental Agency 2005, http://www.ecologic.de/download/projekte/1800-1849/1818/1818_kurzfassung.pdf (German version)
European Commission: Guidance on waste management planning, <http://ec.europa.eu/environment/waste/plans/index.htm>
Report from the Commission to the Council and the European Parliament on the implementation of directive 94/62/ec on packaging and packaging waste and its impact on the environment, as well as on the functioning of the internal market [SEC(2006) 1579]
http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2006&nu_doc=767
End-of-life-vehicle Directive, An assessment of the current state of the implementation by EU Member States http://www.europarl.europa.eu/comparl/envi/pdf/externalexpertise/end_of_life_vehicles.pdf
European Topic Centre on Resources and Waste Management, <http://waste.eionet.europa.eu/>



8 Directives

General waste law

- Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste;
- Council Directive 91/689/EEC of 12 December 1991 on hazardous waste;
- Regulation (EC) No 1013/2006 of the European Parliament and of the Council, of 14 June 2006 on shipments of waste.

Directives on specific waste streams

- Directive 86/278/EEC on use of sewage sludge in agriculture
- European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste;
- Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end of life vehicles;
- Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE);
- Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from the extractive industries.
- Directive 2006/66/EC of the European Parliament and the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC
- Directive 96/59/EC of the Council of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)

Directives on specific waste treatment methods

- Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste; Council Decision 2003/33 of 19 December 2002 on criteria for the acceptance of waste at landfills
- Directive of the Council and the European Parliament 2000/76/EC of 4 December 2000 on the incineration of waste.

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