



Commission of European Communities, for  
and on behalf of the Government of  
Albania,

Ref.: EuropeAid/124909/C/SER/AL

## Implementation of the National Plan for Approximation of Environmental Legislation in Albania

**Component B: Implementation Planning**

**Sector: Waste Management**



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### **DIRECTIVE SPECIFIC IMPLEMENTATION PLAN**

### **DIRECTIVE ON THE LANDFILL OF WASTE (1999/31/EC)**

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## List of Abbreviations

ADA	Austrian Development Agency
BAT	Best Available Technique
BATNEEC	Best Available Technology Not Entailing Excessive Costs
BREF	Best Available Technique Reference
CA	Competent Authority
CARDS	Community Assistance for Reconstruction Development and Stabilization
CDF	Confined Disposal Facility
CDM	Clean Development Mechanism
CoM	Council of Ministers
CSI	Core Set of Indicators
DCM	Decision of Council of Ministers
DiFD	Department for International Development (UK)
DSIP	Directive Specific Implementation Plan
EAN	Environmental Agencies' Network
EAN	Environmental Agencies' Network
EC	European Commission
ECA	Europe and Central Asia
ECENA	Environmental Compliance and Enforcement Network for Accession
ECJ	European Court of Justice
EEA	European Environmental Agency
EEC	European Economic Community
EFA	Environment and Forests Agency
EI	Environmental Inspectorate
EIA	Environmental Impact Assessment
ELPA	Environmental Legislation and Planning
EPR	Environmental Performance Review
EU	European Union
EU	European Union
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HW	Hazardous Waste
IA	Implementation Analysis
IFC	International Finance Corporation
INPAEL	Implementation of National Plan for the Approximation of Environmental Legislation
IPA	Instrument for Pre-accession Assistance
IPC	Industrial Pollution Control
IPH	Institute of Public Health
IPPC	Integrated Pollution Prevention and Control
KfW	Kreditanstalt für Wiederaufbau
LIFE	Legal Instrument for Environment
MAP	Mediterranean Action Plan
MDG	Millennium Development Goals

METE	Ministry of Economy, Trade and Energetics
MoAFCP	Ministry of Agriculture, Food and Consumer Protection
MoD	Ministry of Defense
MoEFWA	Ministry of Environment, Forests and Water Administration
MoES	Ministry of Education and Science
MoF	Ministry of Finance
MoF	Ministry of Finance
MoH	Ministry of Health
MoH	Ministry of Health
Mol	Ministry of Interior
MoPWTT	Ministry of Public Works, Transport and Telecommunications
MoU	Memorandum of Understanding
MS	Member State
MTF	Medium Term Financing
NAPISAA	National Action Plan for the Implementation of the Stabilization and Association Agreement
NEAP	National Environmental Action Plan
NES	National Environmental Strategy
NfPO	Non for Profit Organization
NGO	Non-Governmental Organisation
PEP-SE	Private Enterprise Partnership for Southeast Europe
PPP	Public Private Partnership
PVC	Poly Vinyl Chloride
REA	Regional Environmental Agency
REC	Regional Environmental Center
RoA	Republic of Albania
SAA	Stabilization and Association Agreement
SEA	Strategic Environmental Assessment
SIDA	Swedish International Development Assistance
SME	Small and Medium Enterprise
SoER	State of Environment Report
TA	Technical Assistance
ToC	Table of Concordance
ToR	Terms of Reference
UNDP	United Nation Development Programme
UNECE	United Nations Commission for Europe
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention for Climate Change
UNOPS	United Nations Office of Project Services
WB	World Bank
WEEE	Waste Electric and Electronic Equipment

## INTRODUCTION

This report presents the results of the legal, administrative and institutional assessment of the current state of approximation of the Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste and the overall plan to obtain full approximation in preparation to the country's accession to the EU.

The report highlights the gaps and problems/weaknesses that may hinder the effective transposition and implementation of the Directive and, therefore, identifies the capacity enhancements needed to ensure its effective and efficient implementation. The report also provides the best estimates of costs and benefits that can be made at the present time.

The report draws on the examination of relevant available documentation, together with numerous contacts and detailed discussions held both within the Technical Assistance Team (TAT) and between TAT members and a wide range of key officials.

The report is divided in 3 main sections. Section 1 provides the requirements of the Landfill directive; section 2 provides an overview of the current existing situation with landfills in Albania, including the current status of waste policy, roles' share between stakeholders, legal framework, status of implementation of waste legislation and investments in Albania. Section 3 is about the approximation plan for this directive in Albania, including transposition and implementation, cost estimates and potential funding resources for the implementation of this directive in Albania, as well as the benefits from its implementation.

The document is accompanied by 1 annex.

## Executive summary

This Directive requires measures, procedures and guidance to prevent or reduce negative effects on the environment, and risk to human health, from the landfill of waste. This includes treating waste before landfill, phasing out the mixing of hazardous waste with non-hazardous waste, and applying controls for waste dump closure and site after-care.

The Directive encourages waste hierarchy. The landfill operator is required to provide financial security for the lifetime of operations and to ensure that the disposal charge incorporates recovery costs in relation to the setting up, running, closure and aftercare for the landfill site.

The Directive imposes the obligations to:

- Prepare and implement a national strategy for the for the reduction of biodegradable waste going to landfills;
- Classify and prepare an conditioning plan for existing landfill sites and improve these, and
- Consider new landfill sites for hazardous and non-hazardous waste disposal;
- Set up specific standards for location, construction and operation of landfill sites and ensure that these standards are followed during implementation;
- Ensure that waste accepted complies with specified criteria for each classified landfill, and prohibit the dilution of waste;
- Set up sound permission systems and require landfill operators to prepare conditional plans;
- Carry out inspections of landfill sites to ensure compliance with permit for the sites, and close down landfill sites without a permit;
- Ensure that minimum control and monitoring procedures are followed during operation of landfill sites and that corrective measures are taken;
- Require a register to be kept on the quantities and characteristics of waste deposited at landfill sites and establish systems for monitoring the amount of municipal waste going to landfills and the proportion which is biodegradable;
- Require landfill operators to report to the relevant authorities at least annually and report to the Commission;

Set up a pricing system for construction, operation, closure and after care and ensure that the minimum price for landfill disposal covers all the related cost; Establish criteria for after closure of landfill sites and ensure that the operator remains responsible for the maintenance, monitoring and control of the site after closure.

The Landfill Directive lays down the conditions under which waste may be deposited into or on the ground as a method of final disposal. However landfill is one final disposal option, but waste can alternatively be incinerated in Waste to Energy Plants.

As direct investment costs of incineration per unit of waste disposed are much higher than those of the landfill and given the low average income and scarcity of financial resources in Albania, this makes incineration option appear at the first sight as impossible for Albania. But there are a number of factors, which may reduce the difference in costs if more than just direct investment costs are considered. They include the fact that:

- to comply with the Landfill Directive only waste that has been pre-treated can be landfilled. Treatment may include pre-sorting, mechanical-biological treatment, stabilisation, etc. i.e. processes that involve costs.
- to comply with the Landfill Directive quantitative limits must be set for the landfill of biodegradable waste
- to comply with the Packaging and Packaging Waste Directive (PPWD) the amount of packaging waste which may be landfilled should considerably be reduced. This means that systems must be established for removing most PW before it is landfilled.
- to comply with the Sewage Sludge Directive solutions must be found for sewage sludge. This can be quite troublesome, and incineration would be a convenient solution.
- the energy recoverable from incineration provides cost offsets which significantly enhance the economics of incineration. Part of this energy can be recovered in the form of power, heat or steam which are marketable.

Though Albania will not be able to rely neither exclusively, nor predominantly on incineration there could be a role for one or even two WtoE installations in Albania as part of an effective overall strategy for dealing with waste in an EU-compliant manner. The evaluation of such a possibility is quite a complex matter, and needs to be studied in greater details and greater specifics through a pre-feasibility and a feasibility study, which would look at the viability of including incineration as part of an integrated waste management strategy.

However, under the uncertainty as to whether or not there will be a role for incineration in Albania's future waste management, two scenarios have been developed:

1. Landfill scenario, which assumes that 100% of municipal waste will be landfilled, and
2. Incineration scenario, which assumes that one or two WtoE can be used. All the rest will be landfilled.

**This document only considers the Landfill scenario. The Incineration scenario is considered in the DSIP for the Waste Incineration Directive.**

The process of planning disposal facilities is recommended to be a decentralised one, which takes place at the regional level. Experience in other accession countries suggests that for a region with a predominantly rural population such as Albania, an optimum size would be 1 landfill per 200,000 – 400,000 of population (apart from a larger installation to serve the Tirana conurbation). This gives a total number of regional landfills of between 10 and 11 in Albania.

Provided that all necessary resources for the implementation of this Directive are available, full compliance is expected to be achieved in 16 years. Cost estimates made on the bases of constant prices as of 2008 indicate that:

- investments will be 241 million EURO, of which the overwhelming part (60%) to be covered by the local government;
- the capital expenditure will reach a peak of €22 million in 2017 and declines thereafter.
- operational costs will increase year by year associating the progress with the implementation of the Directive reaching the level of about 16 million EURO in 2026, which is supposed to be the year of full compliance of the Directive). The overwhelming part of these costs (86%) will also be faced by the local government.
- employment costs will rise by €533 thousand per year. Apart from the costs of one additional inspector and one additional person for permitting, this relates to 40 persons assumed to be required as the executive arms of the new regional waste management boards (to be established).
- the overall costs will be dominated by equipment and engineering costs and related services (95% of one-off costs, 78% of recurrent costs).
- most of the one-off costs to be covered by MoEFWA - €62 of the €78 million relate to the costs of cleaning-up the priority hotspots.

Except for the state, municipal or communal budgets other possible sources of funding are available for implementation of the Landfill Directive. They include:

- waste producers (measures they take themselves);
- charges paid by waste producers to waste management service providers;
- fees for licences and other services;
- charges or taxes on new products intended to defray the eventual disposal costs;
- environment fund;
- EU pre-accession: grants from the IPA;
- EU post-accession: grants from the ERDF and Cohesion Fund (CF) - Post-accession;
- grants from other international donors;
- loans from international funding institutions;
- loans from bilateral financing institutions;
- loans from commercial banks;
- bonds issued by central or local government authorities;
- private capital (through PPP arrangements).

# 1 Requirement of the EU Legislation

## 1.1 EU Legislation Covered

The EU legislation covered in this implementation plan is the Council Directive 1999/31/EC on the landfill of waste. In addition, the following Council Decisions are to be taken into account when transposing the Directive:

- Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills, pursuant to article 18 and Annex II to Directive 1999/31/EC;
- Council Decision 2000/738/EC concerning a questionnaire for Member States reports on the implementation of Directive 1999/31/EC;

The Directive requires measures, procedures and guidance to prevent or reduce negative effects on the environment, and risk to human health, from the landfill of waste. This includes treating waste before landfill, phasing out the mixing of hazardous waste with non-hazardous waste (co-disposal), and applying controls for waste dump closure and site after-care. The Directive encourages waste hierarchy. The polluter pays principle is given effect in two significant ways:

- requiring the operator of the landfill to provide financial security for the lifetime of operations at and in relation to the landfill, and
- ensuring that the disposal charge for users incorporates total accounting recovery costs in relation to the setting up, running, closure and aftercare for a landfill site.

## 1.2 Direct Requirements of Legislation

Directive 1999/31/EC is intended to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and for landfills. It is intended to prevent or reduce the adverse effects of the landfill on the environment, in particular on surface water, groundwater, soil, air and human health.

The Directive defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste, and inert waste), and applies to all landfills, as defined. The Directive also sets out circumstances (e.g. spreading of sludge on soils) where the Directive does not apply.

### **Landfill classes**

Landfills are classified into three classes:

- landfills for hazardous waste
- landfills for non-hazardous waste
- landfills for inert waste.

### **Wastes to be accepted at different classes of landfills**

The Directive sets out certain obligations on types of wastes that can be accepted at different classes of landfills:

- waste must be treated before being landfilled
- hazardous waste that fulfils the requirements of Annex II must be assigned to a hazardous waste landfill
- landfills for non-hazardous waste may be used for municipal waste and non-hazardous waste
- inert waste landfills must be used only for inert waste.

### **The following wastes may not be accepted in a landfill:**

- liquid waste
- explosive, corrosive, oxidising, or flammable waste
- hospital and other clinical wastes which are infectious
- used tyres, with certain exceptions
- any other type of waste which does not fulfil the acceptance criteria set out in Annex II.

### **Waste acceptance criteria and procedures**

Annex II of the Directive, as well as Decision 2003/33/EC, describe the principles for acceptance at the various classes of landfills. In particular they set out a uniform waste classification and acceptance procedure:

- Procedure for the acceptance of waste at landfills
- Waste acceptance criteria
- Sampling and test methods
- Safety assessment for acceptance of waste in underground storage
- Overview of landfilling options

### **Operating permits**

The Directive sets up a system of operating permits for landfill sites. The application for such a permit must include:

- The identity of the applicant and the owner

- A description of types and total quantity of waste to be deposited
- The proposed capacity of the disposal site
- A description of the site
- The proposed methods for pollution prevention and abatement
- The proposed operation, monitoring and control plan
- The proposed plan for the closure and after-care procedures
- An impact assessment study, when required by the EIA Directive (Directive 85/337/EEC)
- The applicant's financial security.

The Competent Authority must not issue an operating permit unless it is satisfied that the:

- Landfill project complies with the requirements of the Directive
- Management of the landfill will be in the hands of person technically competent to manage the site
- Operators and staff at the landfill are properly trained
- Landfill will be operated such that all necessary measures will be taken to prevent accidents and limit their consequences
- Adequate financial security has been made

The costs involved in the setting up and operating of the landfill, including the financial security and the costs of closure and after-care for a period of at least 30 years, must be covered by the price to be charged by the operator for the disposal of waste at the landfill site.

### ***Waste acceptance procedures***

The Directive requires that a number of measures must be in place and taken prior to accepting the waste at a landfill:

- The waste in question can be accepted at the landfill
- The waste fulfils the acceptance criteria set out in Annex II
- The waste documentation must be checked
- Visual inspection of the waste at the entrance and at the point of deposit
- If necessary, that representative samples are taken
- A register of quantities and characteristics of the waste deposited is maintained
- The operator always provides a written receipt for each delivery
- If waste is not accepted at the site, that the operator must notify the Competent Authority without delay.

The Directive also sets out requirements for the control and monitoring procedures during the operational phase, and for closure and after-care procedures.

Member States were given a transition period of maximum 8 years during which existing landfill sites had to either be brought into conformity with the Directive or closed down.

### ***Biodegradable waste***

Member States must set up a national strategy for the reduction of biodegradable waste going to landfills. The strategy must include targets to be met and measures to reach these targets, in particular by means of recycling, composting, biogas production or materials/energy recovery.

### 1.3 Indirect Requirements / Implications

Municipalities and waste producers have to take required precautions for separation and reduction of waste at the source and prevention of harmful effect on environment and human health.

### 1.4 Links with Other Legislation

#### Links with other legislation within this sector:

- Waste Framework Directive (2008/98/EC repealing Directives 75/439/EEC, 91/689/EEC and 2006/12/EC);
- Regulation on the Shipment of Waste (EC/1013/2006 and repealing EEC/259/93).

#### Links with other legislation within other sectors:

- Sewage Sludge Directive (86/278/EEC);
- National Emission Ceilings for Certain Atmospheric Pollutants Directive 2001/81/EC;
- Integrated Pollution Prevention and Control (IPPC) Directive (2008/1/EC);
- Environmental Impact Assessment (EIA) Directive (85/337/EEC as amended);
- Strategic Environmental Assessment (SEA) Directive on the assessment of certain plans and programs (2001/42/EC);
- Access to Environmental Information Directive (2003/4/EC);
- Water Framework Directive (2000/60/EC, as amended).

## 2 Present Situation

### 2.1 Government Policy

Albania's current waste policy is based on European policy. The main objective of the government is to fulfill the obligations agreed to in the SAA (Article 108) stating that "The Parties shall develop and strengthen their co-operation in the vital task of combating environmental degradation, with the view of promoting environmental sustainability. Co-operation will mainly focus on priority areas related to the Community *Acquis* in the field of environment. The statement covers all issues under the Environmental *Acquis*, therefore waste management, too.

*The need for improvement in the waste management area has been also recalled in different reports of the European Commission for Albania. EC Progress Reports of 2006, 2007 and 2008, which:*

- encourage the "construction of infrastructure for urban waste handling; selective collection of waste, recycling and disposal;
- emphasize the fact that uncontrolled dumping and burning of waste continue to pose environmental and health risks;
- emphasize that no clear strategy for the safe disposal of hazardous waste is developed.

An "Inter-sectoral Environmental Strategy; National Strategy for Development and Integration" was approved by the Council of Ministers (Decision 847, dt.29.11.2007). It was partly dedicated to waste management and aimed to achieve:

- By 2009: safe landfilling of 75% of hazardous waste; reliable data on hazardous waste; recycling of 10% of urban waste; improved conditions at the authorized landfill;
- By 2010: safe disposal of 50% of the waste to controlled landfills;
- By 2012: avoidance of waste disposal in illegal sites; construction of 5 sanitary landfills.

A separate National Waste Strategy document and a National Waste Management Plan were drafted in 2010 by the INPAEL project team. At the moment of writing this plan, the waste strategy and plan are being discussed with the line ministries and different actors. Both the strategy and the plan are subject to approval by the Council of Ministers.

The waste strategy will cover the period 2010 to 2025 which is seen as the important period prior to and immediately following EU Accession during which time the government of Albania has made waste management a priority issue and where significant effort will be made to radically improve the current situation.

The strategy is based on the four founding policy pillars of the National Policy on waste:

- Planning
- Education
- Resourcing
- Legislation

In the above regard the government is committed to a programme of environmental improvement as part of a wider political agenda to gain full EU membership for Albania. This will involve the implementation of an integrated planning approach to waste management at a National, Regional and Local level.

Targets set in the NWMP reflect the targets set in different EU waste Directives.

## 2.2 Roles & Responsibilities

Roles and responsibilities of different authorities under the current legislation (as of the date this DSIP was finalised) have been described in great details in the DSIP on Waste Framework Directive. For this reason, the text below gives only the roles and responsibilities directly related to the implementation of the Landfilling Directive.

MoEFWA is the main institution involved with waste management in general and waste disposal in particular. Together with the regional agencies and the EI it is responsible for setting up a system of environmental management of waste and monitoring its implementation at all stages and levels (Article 5 of Law 9010). It:

- Drafts the rules/legislation of waste management at all levels (separation, reuse, recycling, composting, disposal, incineration (article 11 of Law 9010) including technical standards and guidelines for hazardous waste (article 26 &27 of Law 9537);
- Issues waste permits (article 25 of Law no.9010) and changes or suspends it, (article 17 of Law 9537);
- Sets the rules for monitoring and inspection/control of implementation of the waste acts (article 30 of Law 9010);
- Organizes and manages the registers on different waste issues, such as on waste/permits (article 45/1 of Law 9890); on HW sites; on HW dealers and brokers (article 11 of Law 9537); on the transport means engaged in the transport of HW (article 10 of Law 9537); on HW permits (article 18 of Law 9537);
- Together with other respective authorities, is in charge of the implementation of all the waste management legislation (article 67 of Law 8934).
- Cooperates and coordinates with central and local government institutions, with the public and NfPO organizations, to increase the level of enforcement of the environmental legislation; (article 67 of Law 8934).

Environmental Agencies' Network (EAN) is part of the MoEFWA, specialized in environmental monitoring and protection. EAN is composed by the Environment and Forest Agency as the central body and the REAs, that work at the regional level. EAN is responsible to the minister.

REAs in cooperation with local government authorities issue the environmental permit for local waste facilities (article 25.2 of Law 9010).

Environmental Inspectorate, as part of the MoEFWA is a body specialized on control and enforcement of environmental legislation (article 20 of Law 8990); it sets penalties for the

administrative breakages (article 84 of Law 8934); suspends or permanently closes activities not complying with environmental legislation (article 86 of Law 8934);

#### MoPWT

The Mission of MoPWT is the formulation, implementation and monitoring of national policies, norms and standards on ... public services... aiming at the sustainable development and promotion of private investment and economic growth...

Together with the MoEFWA it is responsible to draft regulations on:

- Management of inert waste (article 12 of Law 9010). The inert waste regulation (no.1, dt.30.03.2007) was jointly approved by the Minister of EFWA and the Minister of PWT. MoPWT is between other authorities, responsible for its implementation.

Following its mission MoPWT is the contracting authority for the concessions of economic activities under its responsibility (including the field of public services, so waste management, too). Therefore, for waste concession projects (article 5 of Law 9663). This is to be decided by the Council of Ministers (article 5 of Law 9663). MPWT, in cooperation with the Concession Unit, does the identification of potential concessions and estimates their cost-effectiveness and financial appropriateness so to judge on the implementation or not of certain concessions.

MoPWT organizes the tender for the identification of the appropriate bidders to implement the concession and negotiates the conditions of the concession and under certain circumstances may also terminate the agreement on the concession (article 11, 15, 16, 20, 21, 28 of Law 9663).

#### Ministry of Health

Together with the MoEFWA it is responsible to draft regulations on:

- different levels of waste management hierarchy (article 11 of Law no.9010), as well as of
- healthcare waste management (Article 18 of Law no.9010). The regulation "On the healthcare waste management" has been jointly approved (no.6, dt.30.11.2007). MH is responsible for its implementation.

**Hospitals and all healthcare waste generators** are responsible for drafting and updating their own Waste Management Plans, in conformity with the National Waste Management Plans and Hazardous Waste Management Plans.

State Sanitary Inspectorate cooperates with the Environmental Inspectorate, and occasionally with other inspectorates, to carry out inspections of waste related activities. It is also involved in the approval of the waste collection sites (article 34 of Law 8405).

**METE** (in cooperation with MoEFWA) is in charge of drafting the regulation on:

- industrial waste (article 13 of Law no.9010). The regulation is not drafted yet.
- mineral waste (article 14 of Law no.9010). The regulation is not drafted yet.
- rehabilitation of dump sites according to specifics of waste contained (article 22 of Law no.9010). The regulation is not drafted yet.

METE establishes a unit dealing with concessions, in charge of promoting and assisting the contracting authority for concession evaluation and negotiation (article 8 of Law 9663). This holds true for the concessions on collection, transport, processing and management of solid waste (article 4 of Law 9663).

**MoF** drafts the rules on financial guaranties on environment for the environmental permit for a HW site, which are later approved by the Council of Ministers (article 14 of Law 9537). No such rules have been drafted yet.

**Local government** is in charge of issuing development and infrastructure permits, including those on landfills and related facilities (Law no.10119, dt.23.04.2009 on Territorial Planning).

Law no.8652, dt.31.07.2000 "On the organization and functioning of the local government" article 10 recognizes local waste management activities (collection, transport, treatment, and disposal) at local level as their own proper functions in the area of investments and public services. Local government authorities are responsible for defining wastes collection and processing sites, in accordance with the environmental criteria and development plans; for organizing the disposal sites for both waste and hazardous substances; for urban waste and waste water treatment plants. Municipalities have sectors on city cleaning and waste management.

Each local government unit is the contracting authority for the concessions of economic activities under its jurisdiction. Therefore, for waste concession projects (article 5 of Law 9663).

**Municipal Inspectorate** cooperates with Environmental Inspectorate, and occasionally with other inspectorates, to carry out inspections of waste related activities in the territories of their jurisdiction.

**Municipal Council** is involved in the process of permitting of a HW site (Article 13 of Law 9537).

**Economic agents involved in waste management/treatment activities:**

- separate waste at the source of its generation; properly collect, storage and treat waste according to type; establish facilities and plants for waste recycling and processing; design programs of technical, technological and organizational steps for waste management (article 9 of Law no.9010); They are obliged to carry their activities while posing no risk to human health, water, air, soil, plants and animals; no additional noise or smell; no irreversible damage to nature (article 21 of Law 8934);
- separate hazardous waste from other waste, package, label and transport in accordance with national and international rules;
- monitor their own waste generation, keep records (on types, quantities of waste they generate, re-use, recycle, recover, hold, transport, dispose, or incinerate) and publish the related information (article 10, 11, 30 & 31 of Law 9010);
- inform periodically the REAs on HW they may have consigned to other persons and give them access to their HW registers (article 8 of Law 9537);
- report to /inform the MoEFWA (article 55 of Law 8934) every 3 months (article 58 of Law 8934);
- guarantee at their own expenses the safe disposal of exported waste when the transit countries refuse to allow it go through (article 27 of Law no.9010);
- pay the transport, recovery and disposal costs for their own waste (article 10 of Law no.9537, article 7 of Law 9537);
- design and implement their own program for reduction of HW volume, quantity and toxicity (article 7 of Law 9537).

### **Current staffing and capacities for the implementation of the Landfill Directive at different stakeholders**

Landfill Directive requires significant physical investments for the disposal of waste. It also requires the necessary capacities to be in place and effective. There must be sufficient people of the required background, professionalism and motivation to carry out the necessary tasks and these people must have the knowledge, experience and tools they need to do the job.

Unfortunately, for many years the structure of MoEFWA has only had a single waste expert post, at the Directory of Pollution Prevention Policy, which has been vacant since 2006. Occasionally any of the 3 Lawyers available may be involved with waste issues. None of them in particular is specialized on waste legislation. Under these circumstances, it could be easily said that the ministry has almost no capacities for waste management, a situation not corresponding to the importance and gravity of waste issues in Albania.

In the future it needs to increase the number of posts for experts and lawyers to deal with waste, hazardous waste, different waste streams management, waste shipment, permits, registering, statistics, etc., and establish a department on waste. It must also get the related staff trained properly with contemporary knowledge and ready to face the up-to date needs of the country for waste management.

The EFA has a sector on Heavy Metals and Waste, where 4 people are employed, but following the roles of the EFA they are basically involved in data collection and management.

Of the other ministries, MoPWTT is the only one that has a sector on waste management with 2 waste expert posts (under the Directory for Policy on Communal Services), supposed to deal with the disposal of urban and inert waste and also end of life vehicles.

The above picture of understaffed and low capacities in all the system/network dealing with waste management explains to a large extent the current poor situation with waste management in the country.

## **2.3 Current Legal Framework**

Most of the progress in the waste management field has been made in the area of legislation. During the period 2002-2008 waste management legislation in Albania has been completed with new Laws, decisions and regulations/guidelines reflecting the EC directives/decisions and the Basel Convention requirements.

The main principles of the waste management are laid down in the:

- Law no.8934, date 05.09.2002 "On environment protection", amended by Law no.9890, date 20.3.2008 and Law no.9983, date 8.9.2008;
- "Law no.9010, dt.13.02.2003 "On the environmental administration of solid waste", and
- Law nr.9537, dt.18.5.2006 "On hazardous waste administration".

But also in:

- Decision no. 99, dt.18.02.2005 “On the approval of the Albanian catalogue for classification of waste”
- Regulation nr.1, date 30/3/ 2007 “On the treatment of construction and demolition waste from creation and transportation to disposal”
- Regulation no.6, dt. 30.11.2007) “On the administration of hospital waste”
- Guideline nr.6, dt.27.11.2007 “On the approval of the rules, content and deadlines for the drafting of plans for solid waste administration”
- Law nr.8990, dt.13.01.2003 “On environmental impact assessment”
- Regulation nr. 1, date 17.08.2004, “On public participation in the process of EIA”
- Decision no.994, dt.02.07.2008 “On the public opinion for environmental decision-making”.

Other acts not transposing European legislation:

- Law No.9663, dt.18.12.2006 “On concessions”. Between others, the Law covers public services and waste management, too, implying construction of waste treatment facilities, too.
- Law No.8652, dt.31.07.2000 “On the organization and functioning of the local government”.
- Law no.10119, dt.23.04.2009 “On Territorial Planning”.

Issues covered by the Landfill Directive 1999/31/EC are covered to a certain extent by more than one Albanian act, therefore reference is made not only to the Law no.9010, dt.13.02.2003 “On the environmental treatment of solid waste”, but also to other Laws/ by-Laws.

Following Law 9010, article 11 and 20, disposal is the last option in the hierarchy of waste management. A number of regulations on proper management and disposal of different kind of waste (Inert/construction waste, industrial waste, mining waste, military waste, agricultural and livestock waste, bulky waste, healthcare waste in articles 12, 13, 14, 15, 16, 17, 18 of Law 9010) are foreseen by the Law. So far, only the regulation on Healthcare Waste and the Regulation on Inert Waste have been approved.

Article 20 of Law 9010 indicates the kinds of waste that are not allowed to be disposed in the landfill. It includes: Liquid waste; Explosive and oxidizing waste; Inflammable waste; d) Hospital waste, infectious waste and needle waste; Used tyres.

Waste disposal facilities are subject to an EIA study (article 21 of Law 9010), on which bases an environmental permit may be issued. Selection of their sites is made upon the consideration of the: distance from dwelling places, national roads and zones of high traffic of humans and animals; location in geological formations that do not allow eventual infiltrations; distance from water and ground-water sources, water basins, wetlands, lagoons, marshlands, forests, pastures, ecologically vulnerable zones, protected tourist zones and zones of cultural heritage; distance from areas vulnerable to flooding, space to allow internal movement of vehicles and machines employed to transport and process waste.

Law 9010, article 22, defines measures for the rehabilitation of the existing dumps, such as coverage with earth and pressing of the ground; building of separate channels for rain,

ground waters and collection of leakages into isolated basins; protection from fire; prohibition of entrance of unauthorized persons planting of trees in already closed sites.

Regardless the above, none of the existing dumpsites satisfy any environmental standards, and of course not the clear requirements of the Landfill Directive.

Disposal operations are not dealt as such by the Law 9010. They are introduced as, annex II of Law 9537 lists the waste disposal activities.

From the description of the legal requirements on the landfilling of waste It is evident that the no single act is fully dedicated to landfilling of waste, though a number of them deal very little with it as an option for waste disposal and very few requirements are set to different actors in this regard.

Following the continuous recommendations of different EC progress reports, EU Partnership Document, Joint Committee Meetings, etc., transposition of new directives and further deepening of the transposition already made is on-going. A draft new law On Integrated Waste Management and a draft Decision on Landfilling of Waste (for both hazardous and non-hazardous of waste) have been completed by INPAEL project.

## 2.4 Current Implementation Status

A number of different documents, including the EC progress Reports have assessed that current implementation of national waste legislation is low and recommendations have been made to improve the situation.

## 2.5 Current Investment Status

Waste legislation in Albania has not been supported by any proper infrastructure: no sanitary landfills have been built; only a number of old municipal dump sites, of which many have exceeded their capacity or are located in the wrong places, or have been opened without any environmental permit. This situation has highly compromised the implementation and enforcement of waste legislation.

Most municipalities do not have any legally approved dumpsite or landfill which complies with any EU environmental standards. Many others lack even a defined dumpsite at all, or have already exceeded their carrying capacity.

For other municipalities, feasibility studies and detailed designs have been prepared through LIFE 1996 project (591,000 ECU) "Organization of the urban Waste Management in 6 main Albanian Municipalities: a Model Applicable to Towns of other Developing Countries" for **Shkodra, Lezha, Pogradec, Korca, Elbasan and Fier**. Site permits were issued by the Council of Territory Adjustments for **Lezha and Elbasan** landfills, but nothing happened after that.

In **Lezha**, works started in 2000 with a grant of the Italian Cooperation (1,329,912 Euro) carried out by the Arcobaleno Mission, but quickly interrupted, apparently due to presence of underground water in the territory selected for the landfill.

In **Elbasan** works never started. Same situation appears in the 4 other municipalities.

**Gramsh and Librazhd** municipalities have already got the site permits for the construction of landfills, but nothing has happened due to lack of investment funds.

A feasibility study “Urban solid waste management for **South East Albania**” was **supported (666.000 Euro) in 2003** by the **KfW** and implemented by the German-Albanian consortium IGIP-HUK-IU, aiming at the improvement of environmental conditions and minimization of environmental and health risks through the implementation of a modern urban waste management system. The project intended to construct a sanitary landfill for all **Korca Prefecture**, including the regions of Korca, Pogradec, Devoll and Kolonje.

A site North of Maliq (1.1 km from the town of Maliq) has been identified as economically, technically and environmentally appropriate. EIA study is on-going for the identified landfill site, through a KfW supported project.

SIDA (1.6 million Euro) supported waste project in the **Korca Region**, carried out in the period 2005-2008, The project was meant to support the urban waste management at the central, regional and local level, undertake pilot projects, increase public awareness and help to solve the waste problem. The project also supported the physical rehabilitation of some dumpsites (Bilishti, Maliqi and Erseka dumpsites).

A project (434,580 Euro) has been developed **starting 2004** “For the urban waste management in the **Vlora Region**” supported by EU LIFE, UNOPS, Regione Marche/Italy and the local government. The goal was to identify a site for a sanitary controlled landfill, establishment of small recycling enterprises, a monitoring system for waste generation, capacity building for waste management, etc.

The “Pre-investment study” for **the Vlora** hot spot, funded (300,000 USD) by UNEP MAP and finalized in 2005, implemented a Waste Management and Planning component. Following a selection procedure, a landfill site was identified at Bestrova-1, 2 km from Narta lagoon and the village. It is deemed that the site will serve for 10 years. The estimated construction costs vary from 3.2-7.8 MEUR.

The MoPWT in its MTF for 2008-2011 has foreseen the environmentally safe closure of the existing (40 years old) dumpsite of Vlora and the construction of a new urban landfill at Bestrova-1. Planned steps, deadlines and respective budgets are:

- Feasibility study and detailed design for the safe closure of the existing dumpsite. State budget planned: about 163,000 EUR in 2009; 1 MEUR in 2010.
- Works for the detailed design for the new urban landfill (following the feasibility study mentioned above). State budget planned: about 163,000 EUR in 2009.
- First phase of construction of the new landfill. State budget planned: about 1 MEUR in 2010.
- Second phase of construction. Budget foreseen: about 5 MEUR in 2011 from IPA and/or other donors.

Actually, in the frame the WB Project “Integrated coastal zone Management and Clean up” (implemented since 2005 by the MoPWT), (under component B1) prepared a feasibility study and detailed design for the construction of a regional landfill in **Bajkaj** (near Delvine) for the

**South West of Albania.** Construction of a waste transfer area in **Himare/Vuno** is planned, as well. EIA studies for them have been finalized.

The Dutch SNV has completed a project (140,000 Euro) on behalf of the **Municipality of Peshkopia** for the “Construction and sustainable use of urban waste dump site”. The project identified a site of 8,000m<sup>2</sup> that was approved by the National Council of Territory Adjustment of Albania (Decision no.1, dated 21.05.2001). The dump site was never built due to property issues and lack of municipal funds for this purpose. Apparently, the MPWTT has started the expropriation procedures with its own funds.

**Sharra dumpsite project (6 MEUR, loan and 400,000 EUR grant) – support of the Italian cooperation.**

The project aims at re-organization of the dumpsite, its environmentally-safe current operations and closure. Completion of this step will allow for the construction of a new waste dump site, next to the current area. Works started in September 2007. The field will continue operating, i.e. accepting waste during the interventions, too. The overall amount of waste that can be potentially collected in this field is 2.190.000 m<sup>3</sup>, which defines the maximum time limit for the Sharra dumpsite to be until 2015-2016.

**Shkodra landfill project**

With the support (42,000 EUR) of the Municipality of Pisa (Italy) a detailed design (in compliance with EC 1999/31 directive) was prepared for a landfill in Bushat. The total estimated budget needed for its construction is 4.5 MEUR, excluding segregation activities and awareness programs. The landfill will serve to 200,000 inhabitants of Shkodra and Lezha municipality, too, with a volume of 1,000,000m<sup>3</sup> (with possibility to extend) for a life time of over 20 years.

Expected daily waste input is 130/tons/day amounting to 47,450 ton/year. Site permit and environmental permit have been issued. Distance from Shkodra city is 15 km. Funding was allocated from the state budget for the first phase of construction that started in 2008. Financing for the second phase of Bushat landfill has been also planned to be made under the state budget (see below).

Actually, in the frame the WB Project “Integrated coastal zone Management and Clean up” (implemented since 2005 by the MoPWT), (under component B1) prepared a feasibility study and detailed design for the construction of a regional landfill in **Bajkaj** (near Delvine) for the **South West of Albania**. Construction of a waste transfer area in **Himare/Vuno** is planned, as well. EIA studies for them have been finalized.

The Dutch SNV has completed a project (140,000 Euro) on behalf of the **Municipality of Peshkopia** for the “Construction and sustainable use of urban waste dump site”. The project identified a site of 8,000m<sup>2</sup> that was approved by the National Council of Territory Adjustment of Albania (Decision no.1, dated 21.05.2001). The dump site was never built due to property issues and lack of municipal funds for this purpose. Apparently, the MPWTT has started the expropriation procedures with its own funds.

**Sharra dumpsite project (6 MEUR, loan and 400,000 EUR grant) – support of the Italian cooperation.**

The project aims at re-organization of the dumpsite, its environmentally-safe current operations and closure. Completion of this step shall allow for the construction of a new waste

dump site, next to the current area. Works have started in September 2007 and expected to run until September 2009. The field will continue operating, i.e. accepting waste during the interventions, too. The overall amount of waste that can be potentially collected in this field is 2.190.000 m<sup>3</sup>, which defines the maximum time limit for the Sharra dumpsite to be 7 more years, until 2015.

### **Shkodra landfill project**

With the support (42,000 EUR) of the Municipality of Pisa (Italy) a detailed design (in compliance with EC 1999/31 directive) was prepared for a landfill in Bushat. The total estimated budget needed for its construction is 4.5 MEUR, excluding segregation activities and awareness programs. The landfill will serve to 200,000 inhabitants of Shkodra and Lezha municipality, too, with a volume of 1,000,000m<sup>3</sup> (with possibility to extend) for a life time of over 20 years.

Expected daily waste input is 130/tons/day amounting to 47,450 ton/year. Site permit and environmental permit have been issued. Distance from Shkodra city is 15 km. Funding was allocated from the state budget for the first phase of construction that started in 2008. Financing for the second phase of Bushat landfill has been also planned to be made under the state budget.

For the short run (period 2008-2010 and 2011) the MoPWTT has drafted its Mid Term Financing Plan for solid waste management.

For years 2008 - 2010 a total of 1.550.000.000 ALL has been planned.

### **Year 2008 – a total of 175.000.000 ALL**

1. Construction of a solid waste landfill for Shkodra Region (at Bushat) – First phase. Budget available: 130.000.000 ALL. Processing of solid urban waste (47.000 ton waste/year) in a sanitary and controlled way, following the requirements of the EC directives.
2. Feasibility study and detailed design for the closure of the existing solid waste dumpsite of Berati. Budget available - 16.000.000 ALL.
3. Feasibility study and detailed design for the closure of the existing solid waste dumpsite of Korça. Budget available - 20.000.000 ALL.
4. Construction of solid urban waste landfill – Rreshen. Processing of 3.500 tons/year in a sanitary and controlled way, following the requirements of the EC directives. Budget available - 6.000.000 ALL

### **Year 2009 - 1.000.000.000 ALL planned**

1. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Lezhe. Cost - 20.000.000 ALL.
2. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Durres. Cost - 25.000.000 ALL.
3. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Vlore. Cost - 20.000.000 ALL.

4. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Shkoder. Cost - 20.000.000 ALL.
5. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Elbasan. Cost - 20.000.000 ALL.
6. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Pogradec. Cost - 20.000.000 ALL.
7. Feasibility study and detailed design for the closure of the existing solid waste dumpsite - Fier. Cost - 20.000.000 ALL.
8. Feasibility study and detailed design for the construction of the solid urban waste - Berat. Cost - 25.000.000 ALL
9. Feasibility study and detailed design for the construction of the solid urban waste - Elbasan. Cost - 25.000.000 ALL, nga buxheti I shtetit.
10. Feasibility study and detailed design for the construction of the solid urban waste - Gjirokaster. Cost - 25.000.000 ALL
11. Feasibility study and detailed design for the construction of the regional solid urban waste - Vlore. Cost - 20.000.000 ALL.
12. Detailed design for the construction of the regional solid urban waste - Korçe. Cost - 20.000.000 ALL
13. Construction of the solid urban waste landfill – Shkodra region (at Bushat) – Second phase. Cost: 390.000.000 ALL
14. Safe Construction of the solid urban waste landfill – Korça region. Cost: 320.000.000 ALL
15. Safe Closure of the existing urban waste dumpsite - Berat. Cost - 27.000.000 ALL.

Year - 2010 - 380.000.000 ALL planned

1. Construction of the solid urban waste landfill (44.000 ton waste/year) –Vlora region. First phase. Cost: 125.000.000 ALL
2. Safe closure of the existing urban waste dumpsite (550.000 ton waste) - Shkoder. Cost - 126.000.000 ALL.
3. Safe closure of the existing urban waste dumpsite (200.000 ton waste) - Korçe. Cost- 126.000.000 ALL.

Year – 2011 1.500.000.000 ALL planned

1. Construction of the solid urban waste landfill – Vlora region (second phase) – 220.000.000 ALL.
2. Construction of the solid urban waste landfill – Elbasan region –250.000.000 ALL.

3. Construction of the solid urban waste landfill – Fier region – 250.000.000 ALL.
4. Construction of the solid urban waste landfill – Berat region – 250.000.000 ALL
5. Construction of the solid urban waste landfill – Gjirokastra region – 200.000.000 ALL.
6. Safe closure of the existing urban waste dumpsite - Elbasan – 100.000.000 ALL
7. Safe closure of the existing urban waste dumpsite – Durres – 130.000.000 ALL
8. Safe closure of the existing urban waste dumpsite – Fier - 100.000.000 ALL.

### **Hazardous waste**

“Feasibility study and detailed design for the hazardous waste landfill” project was supported under CARDS 2002, (about 600,000 EUR) and implemented by the Finish company “Plancenter Rodeco”. It selected a site (at Zharrez commune in Patos–Marinza oilfield) and prepared the detailed design for the landfill at that site. The design was meant for a long-term solution for hazardous inorganic waste disposal from the hot spots, and from the current industry. But the idea of having the landfill there was not approved by the community and the local government. The funding made available by the EC CARDS 2006 for the construction of the landfill was reallocated for the construction of the CDF-s in Fier and Rubik.

### **Porto Romano hot spot in Durres**

A feasibility study for the rehabilitation of Durresi hot spot was completed by 2005 with the support (250.000 USD) of the World Bank/Japanese Trust Fund. After that, in the frame the WB Project “Integrated costal zone Management and Clean up” (implemented by the Ministry of Public Works, Transport and Telecommunications), following DCM No.242, dt.21.4.2005 a grant of 3.6 million US\$ was accorded by the Dutch Embassy for the component C, clean up of Porto Romano hot spot.

The grant consisted in a feasibility study and detailed design for the clean up of Porto Romano hot spot and construction of the Confined Disposal Facility (CDF). So far, feasibility study and detailed design have been completed. An environmental permit has been issued by the MoEFWA for the construction of the CDF. Works are on-going.

### **Vlora former PVC hot spot**

A “Pre-investment study for the environment rehabilitation of the Vlora hot spot (PVC Plant - Former Sodium Factory)” was completed by 2005, by “Tec Icon”, with the financial support (300,000 USD) of the UNEP MAP. The main outputs of the project were:

- a. an environmental remediation plan for the former PVC Vlora plant
- b. a long term investment plan for enhanced municipal solid waste management.
- c. identification of priority investments and preparation of relevant feasibility studies for both environmental remediation and solid waste components.
- d. public consultation for the site identified as appropriate for construction of an urban waste landfill.

Detailed designs have been prepared with the technical assistance and financial support of the EC, for building Confined Disposal Facilities (CDF) former PVC factory (Vlora). An EIA study has been prepared and environmental permit issued. Works for CDF in Vlora are on-going.

**Arsenical Elimination in Fier**

A project for the solidification of arsenical solution and its proper packaging, was completed (1 MEUR) under PHARE 2000 programme. With funds from CARDS 2005 the arsenic waste will be put in CDF in the territory of the former factory. An environmental permit has been issued for the CDF. The civil works were completed in 2009.

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**Copper Factory – Rubik**

A pre-feasibility study was completed (with budgetary funds) by the Institute of Environment. A detailed design for a CDF for Rubik hazardous waste was prepared with support of the CARDS 2005 and an environmental permit was issued. The civil works were completed in 2009.

## 3 Approximation Plan

### 3.1 Overall Plan and Milestones

With the signing of the SAA with the European Communities in 12 June 2006, RoA has strongly reconfirmed the already clearly expressed political commitment to the EU membership.

The National Plan for the Implementation of the SAA, which is a dynamic plan updated annually to reflect the changes in each of the fields of the Acquis, also provides a strong confirmation of the ability and dedication of all relevant institutions and civil servants to respond to the requirements of the EU integration process.

One of the main conditions for EU membership is the approximation of EU legislation, a process consisting of three main components: a) legal transposition, b) practical implementation, and 3) enforcement.

Transposition is the formal incorporation of the European legislation into the country legislation. This phase calls for the approval of laws, decisions, regulations and guidelines or other regulatory instruments that pave the way to the implementation of the *Acquis communautaire*.

Implementation implies on one hand the establishment of governmental structures and administrative processes for the implementation of legislation. This phase includes measures for institutional building and budgetary expenses related to recruitment of staff, monitoring equipment, training, etc.

Another aspect of implementation is the practical measures, i.e. the physical changes necessary to implement legislation. This includes public financing activities that have an environmental impact, such as the collection and recycling systems for waste or the necessary investments to be made by the private sector to comply with the new standards.

Enforcement implies measures for monitoring, control and inspection of activities or plants that are subject to a certain Law. Through enforcement measures Law transgression is verified and sanctions are set for the non-compliance with the legislation.

Though these measures look like subsequent (as in fact they are), one has to consider that they are also inter-connected and inter-dependent. For the transposition to be effective one

must assure that implementation, enforcement and existing capacities must be taken into account and reflected while transposing the legislation.

According to the EC definition:

“...Effective enforcement implies that Law transgressors be subject to a credible risk that they may be discovered and punished in a way that will at least deprive them from any economic benefit they obtain through the Law transgression”.

### 3.2 Transposition Plan

The National Action Plan for the Implementation of the Stabilization and Association Agreement 2008-2014 (NAPISAA) contains an overall plan to obtain full approximation, taking into account past and ongoing approximation projects, and was approved in October 2008. It consists of a legal transposition plan and an implementation plan (including enforcement). A special chapter is dedicated to waste management. The plan covers three phases: 2008-2009 (short-term); 2010-2011 (medium-term); 2012-2013 Long-term. Actions have been planned for the legislative initiatives and implementation measures.

The NAPISAA sets out a programme for transposing European waste legislation during the 3 phases mentioned above.

The terms of reference of the INPAEL project provide for the full transposition of European waste legislation into the planning for the short-term period 2009-2010.

INPAEL has drafted the:

- New Law on Integrated Waste Management,
- Draft Decision on Landfill of Waste, and
- Ministerial Order on the Format to be used in preparing reports on the implementation of the Decision of the Council of Ministers “On the Landfill of Waste”.

The above drafts have transposed the:

- Landfill Directive,
- Decision on Landfill Acceptance Criteria and
- Commission Decision 2000/738/EC concerning a questionnaire for member states reporting on the implementation of Directive 1999/31/EC on the landfill of waste.

The Landfill Directive is one of the cost-heavy directives as it requires the construction of capital-intensive facilities. For measures that cannot be introduced or implemented immediately in the conditions of Albania because of the high capital requirements (or indeed for other technical reasons), transitional periods have been set, so as to give both government and operators the time needed for compliance. Most recent acceding countries have requested and been granted significant transition periods (10½ years in the case of Romania).

The main aim of the Landfill Directive is to provide for measures to prevent or reduce the adverse the environmental and public health effects from the landfilling of waste. It requires Member States to take a number of measures to achieve this, including treating waste before landfilling it, phasing out co-disposal (the mixing of hazardous waste with non-hazardous waste) and exercising controls over site closure and after-care.

The polluter pays principle is given effect in two significant ways: (i) by requiring the operator of the landfill to provide financial security for the lifetime of operations at and in relation to the landfill, and (ii) by ensuring that the operator's charges cover the "full cost" of setting up, running, closure and aftercare of the landfill.

The main policy aims of this Directive are to seek to encourage Member States, operators and the public to move up the waste management hierarchy, so to reduce the need for landfill; and to have the full economic costs of landfill applied, with greater transparency.

The legal gap analysis presented in Sub-Chapter 2.3 helps to identify the gaps between the Directive requirements and what the current Albanian legislation provides for. Their comparison was the bases on which the new draft DCM on Landfilling of waste was prepared as well as deciding on the required future actions that will enable full transposition of these other waste directives. Those actions were prepared in close cooperation with the officials of the MoEFWA. The actions were presented to the members of the Waste Management Working Group to comment and give their validation. It should be noted that some of the proposed actions might already have been accomplished at the time of reporting.

However when this work is complete there may still remain a number of items of secondary legislation required to fully operationalise the legislation. This might include, for example:

- detailed regulations on the types of financial security acceptable in Albania for which types of operator, in implementation of Article 7 (i) and 8(a)(iv);
- regulations laying down minimum formal qualifications or conditions applying to a landfill operator or specific categories of personnel employed in a landfill, etc.

### 3.3 Implementation Plan

#### 3.3.1 Introduction

The Landfill Directive lays down the conditions under which waste may be deposited into or on the ground as a method of final disposal. However in order to plan the implementation of this Directive it is important to bear in mind that landfill is one final disposal option, but that waste can alternatively be incinerated.

#### 3.3.2 Incineration versus landfill

Per unit of waste disposed, the direct investment costs of incineration are much higher than those of landfill. Given the low mean incomes and scarcity of financial resources in Albania, this appears *prima facie* to rule incineration out from a role in Albania's waste management in the future. But there are a number of factors which mean that the real difference in costs is not as great as appears from a comparison of these direct investment costs only. These are as follows.

1. The Landfill Directive requires member states to take measures to ensure that "only waste that has been subject to treatment is landfilled". Treatment may include pre-sorting, mechanical-biological treatment, stabilisation, etc, but any treatment involves costs.
2. The Landfill Directive places quantitative limits on the landfill of biodegradable waste. Meeting these limits may be troublesome and costly: it may involve persuad-

ing households to separate kitchen and garden waste from other forms of waste, collecting biowaste separately and establishing large centralised composting facilities. There is a danger that these plants will produce a product (compost) of unsatisfactory quality and/or for which there is no market.

3. The Packaging and Packaging Waste Directive (PPWD) sets minimum standards for the recycling/recovery of packaging waste (PW). This considerably reduces the amount of packaging waste which may be landfilled. This means that systems must be established for removing most PW before it is landfilled. However the requirement is only partially avoided by incineration since this counts as 'recovery' (as energy) but not as 'recycling' (energy recovery is explicitly excluded from the definition of recycling). The PPWD requires that much of the recovery is through recycling. However some plastic packaging waste cannot be recycled and incinerating this waste makes a positive contribution to meeting the PPWD targets without the need for establishing the need for expensive separate collection systems.
4. When Albania starts to install more sewage treatment capacity it will have to find a solution for its sewage sludge. This can be quite troublesome, and incineration would be a convenient solution.
5. The energy which can be recovered from incineration provides cost offsets which significantly enhance the economics of incineration. Part of this energy can be recovered in the form of power, which is normally highly marketable as long as there are no institutional impediments. The rest is also recoverable, but in a lower grade form, as heat. This may be useable for certain space heating or industrial applications, but the existence of a market is much less certain. Since three-quarters of the useable energy output of such an installation is in the form of heat rather than of power, the assumption about the marketability of the heat output has a major impact on the economics

It is clear that Albania will not be able to rely exclusively, or even predominantly, on incineration for the disposal of waste. But there could be a role for, say, one or even two incineration installations in Albania as part of an effective overall strategy for dealing with waste in an EU-compliant manner. It follows from the above that the evaluation of such a possibility is quite a complex matter, and needs to be studied in greater detail and greater specifics. A proposal has been made to the government of Albania for a prefeasibility study which would look at the viability of including incineration as part of an integrated waste management strategy.

### 3.3.3 Scenarios

Given the uncertainty as to whether or not there will be a role for incineration in Albania's future waste management, two scenarios are used:

3. Landfill scenario, which assumes that 100% of municipal waste will be landfilled, and
4. Incineration scenario, which assumes that the waste from certain areas, will be disposed of by means of incineration. All the rest will be landfilled<sup>1</sup>.

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<sup>1</sup> It might be thought that since the Landfill scenario means that 100% of residual waste (i.e. the waste fraction remaining after reusable, recyclable and recoverable waste has been removed) it would be logical for the Incineration scenario to mean 100% incineration of the residual fraction. However, this latter scenario would be completely unrealistic from the present perspective, because of the high costs of incineration. Despite these high costs, however there could be an argument for having, say, 1 incinerator as part of an integrated waste management system for Albania, which is the assumption made in the Incineration scenario.

This document only considers the Landfill scenario. The Incineration scenario is considered in the DSIP for the Waste Incineration Directive.

### 3.3.4 Process by which the configuration of waste disposal facilities will be determined

A National Waste Management Plan has been drafted by the present (INPAEL) project (This plan has not yet been approved at the time of writing). This Plan divides the country into 12 waste areas, the boundaries of which correspond to the boundaries of the 12 Albanian prefectures (qarks). Twelve waste area groups have been formed to develop regional waste management plans for these areas. Each of these plans will specify a 'best practicable environmental option' for the management of municipal waste. The purpose of this is to identify deliverable and affordable solutions for municipal waste, which meet the statutory targets, and on which local stakeholders collectively agree. The solutions are to be based on the best information available at the time, and to achieve the best balance between environmental, social and economic costs and benefits.

The process of planning disposal facilities will therefore be a decentralised one which takes place at the regional level. The national configuration of landfills will simply be the total of the facilities planned at regional level.

### 3.3.5 Optimum landfill size and future number of landfills in Albania

On the face of it, it might appear that the process described above will lead to one disposal facility (i.e. one landfill in the case of scenario 1) per waste area. Although there may be a tendency for this to happen, it is not necessarily so. Two (or more) waste areas, or parts of different waste areas will be free if they so mutually agree, to set up shared facilities, or a waste area will be able to agree with another that it will send waste from part of it to a landfill in another waste area where this reduces overall costs.

The question therefore arises as to what the optimum size of a landfill is, and how many are likely to be developed in Albania. As the size of a landfill increases it realises certain economies of scale. Modern sanitary landfills need certain types of equipment (weighbridge, bulldozer, compactor, wheel-wash facility, firefighting facilities, for example), almost independently of their size. Therefore unit costs fall (although with diminishing returns) as landfill size rises. On the other hand the larger the area served by a landfill, the greater average distance the waste has to be transported to get to the disposal facility. The optimum size of a landfill in given conditions is the result of trading off these effects. The higher the population density, the larger the optimum size for a landfill. On the other hand in a region with poor transport infrastructure, transport costs are higher, and the trade-off favours having more, smaller landfills.

Experience in other accession countries suggests an optimum size in a **region with a predominantly rural population would be 1 landfill per 200,000 – 400,000 of population** (apart from a larger installation to serve the Tirana conurbation, of course). Given the rugged topography of much of Albania and the poor state of the road infrastructure at present the optimum is likely to be at the lower end of this range, i.e. a landfill for 200,000 inhabitants. This gives a total number of landfills for the country of between 10 and 11.

*Background*

Despite the progress described above in transposing EU waste legislation into Albanian law, almost no progress has been made to date in implementing EU standards of waste management in general, and the Landfill Directive in particular:

- there are not sufficient human resources or expertise available to carry out the tasks required;
- Albania has not yet any Landfill Directive-compliant sanitary landfills, although there are several planned or under construction; waste is dumped on dumpsites which are uncontrolled, unsanitary and non-compliant, or is simply abandoned, thereby causing environmental pollution, hazard and unsightliness;
- hazardous waste is disposed of in an uncontrolled way with other waste streams, and is rarely separated and treated safely, thus creating additional hazard;
- there is no systematic recycling of suitable waste streams; the recycling which does take place is carried out by the informal sector or private initiative;
- waste is not treated in any way before being dumped; there is no systematic attempt being made to reduce the quantity of waste in general, and biodegradable waste in particular, going to landfill; nearly all of the biodegradable fraction of municipal waste is ending up at (unregulated) landfills, where it leads to the production and emission into the atmosphere of landfill gas, with powerful greenhouse properties.

**3.3.6 Actions needed for implementation**

In order to plan for the implementation of the Landfill Directive it is necessary to identify the actions which will be necessary to achieve full implementation. This process is complicated by the fact that while the waste management system is designed to comply with a number of different Directives (e.g. the Waste Framework Directive, Landfill Directive, Packaging and Packaging Waste Directive), the systems are quite integrated and it is not always easy to say whether a necessary action should be ascribed to one Directive or another. In practice it does not matter very much in such situations to which Directive an action is allocated as long as each action necessary to comply with the total corpus of European legislation is assigned to one and only one Directive.

In this connection the following points related to the scope of the implementation actions included in the DSIP for the Directive on Waste (2008/98/EC) should be noted that:

- it is assumed that the additional staff allowed for in that DSIP for the waste department at the MoEFWA (6 full-time person-equivalents (fpe)) will be sufficient to also take on the implementation of the Landfill Directive
- that DSIP does not include the appointment of inspectors for IPPC installations (e.g. landfills);
- the collection of the residual waste stream, its transport to the transfer station or landfill, the operation of the transfer stations and the transport of the waste from the transfer stations to the landfill are all included in that DSIP;
- all transport of hazardous waste, any necessary intermediate storage before it reaches its point of final disposal, all packaging and labelling of hazardous waste for transport purposes and the incineration of incinerable waste is included in that DSIP, but the operation of a hazardous waste facility which would include a secure hazardous waste landfill is not included;
- measures to collect waste oils separately so that, inter alia, they do not end up in a landfill (not permitted since they are liquid) are included in that DSIP.

The actions needed to secure full implementation of the Landfill Directive are presented in the table below together with a short description of each of the proposed actions, the responsible institution and a proposed implementation period. The implementation period is given in relative rather than absolute years, the year 00 representing the year in which implementation commences. The list of actions was drafted by the INPAEL staff and presented to the Waste Management Working Group for comments. The actions are grouped according to ten main categories, i.e.:

1. Assign competences, establish administrative structures, build capacity
2. Permitting
3. Draw up and implement a strategy for reducing biodegradable waste
4. Existing landfills
5. New regional non-hazardous sanitary landfills
6. Establish hazardous waste treatment facility
7. Measures for dealing with waste tyres
8. Landfills for inert waste
9. Financial aspects
10. Remediation of priority contaminated land sites
11. Inspection and enforcement
12. Reporting

The table shows the various actions and sub-actions required for implementation of the Directive, together with the Article(s) which specifically creates the need for that action, the institution responsible in the first place for that action and the year or period of years when implementation is envisaged.

*Table 3.1: Implementation and enforcement actions*

Action no.	Description of action	Article(s)	Responsible Institution	When?
<b>1</b>	<b>Assign competences, establish administrative structures, build capacity</b>			
1.1	Designate competent authorities	General	Govt. of Albania	
1.2	Appoint personnel at MoEFWA, assign tasks	General	MoEFWA	
1.3	Training, technical assistance	General	MoEFWA	
1.4	Consultancy, training, travel and other miscellaneous activities needed to support waste management functions at MoEFWA	General	MoEFWA	
<b>2</b>	<b>Permitting</b>			
2.1	Appoint staff for permitting		Env. Agency	
2.2	2.2 Technical assistance for the training of permitting staff, development of procedures		Env. Agency	
<b>3</b>	<b>Draw up and implement national strategy for reducing landfill of biodegradable waste</b>	5	MoEFWA	
3.1	Draw up national strategy for reducing landfill of biodegradable waste		MoEFWA	
3.2	Implement national strategy for reducing landfill of biodegradable waste		MoEFWA/ regional and local govt.	
<b>4</b>	<b>Existing landfills and dumpsites</b>			
4.1	Inventorise/survey existing landfills and dumpsites		MoEFWA	
4.2	Identify sites where urgent action is necessary		MoEFWA	
4.3	Draw up plan for urgent measures		MoEFWA	
4.4	Make timetable for closure and remediation of existing sites		MoEFWA	
4.5	Draw up and implement conditioning plans for exist-		Landfill	

	ing permitted landfill sites		operators	
4.6	Technical assistance project on a number of activities related to the phase-out of existing dump sites		MoEFWA	
4.7	Prepare detailed closure/reclamation plan for each dump site to be closed		LGUs	
4.8	Close municipal waste dumps as regional landfills come on line		LGUs	
4.9	Monitoring and aftercare of closed dumps		Landfill operators	
<b>5</b>	<b>New regional non-hazardous sanitary landfills</b>			
5.1	Completion of outstanding projects for construction of EU-compliant landfills in Albania		MoEFWA/ MoPWT	
5.2	Preparation of projects for new regional sanitary landfills		MoEFWA/ waste areas	
5.3	Regional waste management boards (RWMBs) - personnel		Waste areas/ local authorities	
5.4	Construction of new landfills		RWMBs	
5.5	Identify landfill sites in isolated settlements that qualify for exemption from certain provisions of the Directive	3	MoEFWA	
<b>6</b>	<b>Hazardous waste treatment facility</b>			
6.1	Preparation for new hazardous waste treatment facility		MoEFWA	
6.2	Construction of new hazardous waste treatment facility		MoEFWA	
<b>7</b>	<b>Measures for dealing with waste tyres</b>			
7.1	Draft a plan for dealing with waste tyres		MoEFWA	
7.2	Implement tyre recovery system		MoEFWA/ industry	
<b>8</b>	<b>Landfills for inert waste</b>			
8.1	TA project on inert waste		MoEFWA	
8.2	Feasibility studies for inert landfills		Local authorities	
8.3	Construction of the municipal landfills for inert waste		RWMBs, waste areas	
<b>9</b>	<b>Financial aspects</b>			
9.1	Develop a system to ensure that landfill prices are fully cost-recovering		MoEFWA RWMBs	
9.2	Establish a system for financial security suited to Albanian conditions		MoEFWA	
9.3	Introduce a landfill tax		MoEFWA/ MoF	
<b>10</b>	<b>Remediation of priority contaminated land sites</b>		MoEFWA	
<b>11</b>	<b>Inspection and enforcement</b>	8, 12, 13, Annex III	MoEFWA	
<b>12</b>	<b>Reporting</b>		MoEFWA	
12.1	Make information available to national and Community statistical authorities, when requested	5, 7, 11	MoEFWA	
12.2	Report to the Commission	3, 5, 15, 18	MoEFWA	

The above actions are considered in further detail below.

## 1 Assign competences, establish administrative structures, build capacity,

The waste department

### 1.1 Designate competent authorities

*These include:*

- A local authority responsible for control of the disposal of waste to landfill sites. The authority should have responsibility for authorising landfills, implementing control and monitoring procedures, deciding when landfills should be closed, and overseeing the monitoring and aftercare of closed landfills.
- *a competent inspection authority*
- *a competent permitting authority: most new landfills will fall within IPPC, and their permitting will therefore be the task of the Environment Agency. For other new landfills (e.g. landfills for inert waste) a competent authority will have to be designated. This could be the same as the proposed unit at MoEFWA which deals with the permitting of other waste management activities. For the purpose of the costing it is assumed that it is the same unit, and that the 2 persons allowed for in the Directive on Waste (see activity 5 in DSIP for the Directive on Waste (2008/98/EC)) will be sufficient for this purpose. The cost of the necessary training is also included in the DSIP for the Directive on Waste*
- *the authority responsible for territory planning*

## 1.2 Appoint personnel at MoEFWA, assign tasks

The main tasks will be:

- overseeing the development of the national strategy for reducing the landfill of biodegradable waste,
- contributing to the waste management planning in so far as it relates to landfill;
- facilitating the allocation and disbursement of monies from the state budget to fund or co-fund the landfill infrastructure,
- reporting to the European Commission and to national and European statistical offices on the quantities of waste being landfilled, and how much of this is biodegradable waste,

In the DSIP for the Directive on Waste it was assumed that 6 fte would be taken on in the Waste Department at the MoEFWA. It is assumed that one fte of these would be assigned to the implementation of the Landfill Directive, so no further personnel need to be counted under the Landfill Directive.

## 1.3 Training, technical assistance

A TA project will be established to provide training and capacity-building related to the landfill function not only to the persons referred to in Activity 1 but also to support Environment Agency personnel carry out the permitting function (activity 2) MoEFWA, the and the Inspectorate. This project will:

- train officials and inspectors of the MoEFWA and the Environment Agency,
- prepare, handbooks of procedures, guidance documents, model permit formats and conditions,
- assist in preparation of information brochures, application forms and guidance notes or waste dump landfill operators,
- recommend permit fees, etc.,
- provide support in drafting the national strategy for reducing the landfill of biodegradable waste

## 1.4 Consultancy, training, travel and other miscellaneous activities needed to support waste management functions at MoEFWA

## 2 Permitting

All landfills receiving more than 10 tonnes of waste in any day or with a total capacity of more than 25,000 tonnes other than landfills used only for inert waste fall within the IPPC regime. On this basis, any landfill serving more than, say 20,000 persons will fall within IPPC.

It can therefore be assumed that all the new regional landfills will fall under IPPC and all permitting requirements will be included in the IPPC permit.

Landfills for inert waste and existing landfills which are not closed immediately but are allowed according to the Accession Treaty to remain open for a transitional period will be subject to (non-IPPC) permitting, and are assumed to be included with other waste management permitting activities under the Waste Framework Directive (assumed to also be a task of the Environment Agency)..

### 2.1 *Appoint staff for permitting*

The additional staff required to deal with the IPPC permitting are attributable to the IPPC Directive and not the Landfill Directive. The additional workload relating to the permitting of landfills which do not fall under IPPC is assumed to equal 1 full-time person-equivalent (1 ftpe).

### 2.2 *Technical assistance for the training of permitting staff, development of procedures*

This will include the provision of concrete criteria, model rules, guidance documents etc. for the different sectors which will assist the permitting department in its work. It will also draft operating procedures, design a record-keeping system, etc., and will include some classroom training.

## 3 Draw up and implement national strategy for reducing landfill of biodegradable waste

This should include the establishment of systems for monitoring the amount of municipal waste going to landfill and the proportion of that waste which is biodegradable

### 3.1 *Draw up national strategy for reducing landfill of biodegradable waste*

This strategy will be included in the national waste management plan. The strategy will include guidelines on how the quantity of biodegradable waste going to landfill should be calculated.

### 3.2 *Implement national strategy for reducing landfill of biodegradable waste*

Without wishing to prejudge this issue, it is assumed that the strategy will be to:

- (i) promote home composting in rural areas
- (ii) carry out in situ composting of park and garden waste
- (iii) collect urban biodegradable waste separately (separate bring containers for kitchen and garden waste). The separately collected biowaste will be composted at windrow composting installations, generally 1 per waste area, situated at landfill where possible.

## 4 Existing dumpsites and/or landfills

### 4.1 *Inventorise/survey existing landfills and dumpsites*

Make an inventory of all existing landfills and dumpsites in Albania. This would include:

- Name
- Location

- Total surface area of site
- Area covered by waste
- Estimated mean depth of waste
- Estimated total or permitted capacity (m<sup>3</sup>)
- Estimated remaining capacity (m<sup>3</sup>)
- Estimated amount deposited per year
- Toxic waste present? – describe
- Nature of soil
- Estimated depth of water table
- Environmental risks: description and estimated quantified risk category.

It is assumed that this work would be carried out by local consultants.

#### *4.2 Identify sites where urgent action necessary*

These will be based on the risk category assigned in activity 4.1

#### *4.3 Draw up plan for urgent measures*

These will be based on the risk category assigned in activity 4.1. Meetings with municipalities and communal enterprises to discuss proposals. Consider alternative waste disposal arrangements. Agree measures to be taken, which may involve closure and rehabilitation or remedial measures. Estimate cost. Explore possible sources of financing of cost. Provide guidance on reclamation and aftercare.

#### *4.4 Make timetable for closure and remediation of existing sites*

This should take account of both the urgency of the environmental risks posed and the timetable for the construction of new facilities. This timetable will be used as the basis for negotiations with the European Commission on transitional periods for the closure of existing dumpsites and landfills.

#### *4.5 Draw up and implement conditioning plans for existing landfill sites*

The conditioning plan is an instrument provided for by Article 14 which allows the operator of an existing landfill to propose modifications to the landfill which allow it to achieve compliance with the Landfill Directive, and therefore to continue in operation. This activity is included for completeness, but is unlikely to be of great practical importance. It is anticipated that existing landfills will not prepare conditioning plans as there is no reasonable prospect of making them compliant with credible measures, except for those landfills whose construction was started recently, were designed to be EU-compliant and have been permitted based on the current legislation.

#### *4.6 Technical assistance project on a number of activities related to the phase-out of existing landfills*

The project will include:

- support for activities 4.1, 4.2, 4.3 and 4.4 above,
- draw up a plan of measures urgently necessary for the cases identified in 4.2; these measures may include closure; hold meetings with municipalities and communal enterprises to discuss proposals; consider alternative waste disposal arrangements. Lay out criteria for closure and (re)cost; provide guidance on reclamation and aftercare.
- Draw up general guidelines for aftercare and monitoring of closed sites. Provide training for inspectors and monitors

#### *4.7 Prepare detailed closure/reclamation plan for each landfill to be closed*

#### 4.8 Close municipal waste dumps as regional landfills come on line

#### 4.9 Monitoring and aftercare of closed dumps/landfills

For larger sites this will include stability monitoring, groundwater monitoring (using monitoring wells drilled during closure) and landfill gas monitoring.

### 5 New regional non-hazardous sanitary landfills

#### 5.1 Completion of outstanding projects for construction of EU-compliant landfills in Albania

These are the projects in Korce (Maliq), Vlora (Bajkaj), Shkoder (Bushat) and Rreshen.

These projects have largely completed the preparation stage and construction is about to start or has already started.

#### 5.2 Preparation of projects for new regional sanitary landfills

A region will be identified which will act as a pilot, and a model for other regions. Hold discussion with IFIs and other potential financiers, *develop organisational models for regional approach in discussion with stakeholders, develop necessary legal basis (e.g. establish model regional waste management board agreement), reform of waste function in communal enterprises, development of necessary studies (feasibility study, EIA, financing proposal), negotiate finance, public consultation and public information, obtain necessary permits. Ascertain what suitable financial instruments there are in Albania to implement financial securities needed for closure, draw up guidance on requirements with regard to financial instruments, rehabilitation and aftercare.* [Tasks in italics only apply to pilot exercise.]

#### 5.3 Regional waste management boards- personnel

These will be the institutional instruments that need to be developed in order to allow local authorities to cooperate together in providing waste management services at the regional level. It is assumed there would be an executive staff of 4 fpe (3 professionals + office manager/secretary) in each of the 12 waste regions. These people would handle tendering and contracting, legal arrangements, engineering, negotiations with IFIs and member municipalities, communal enterprises, transport companies, etc.

#### 5.4 Construction of new landfills

#### 5.5 Identify landfill sites in isolated settlements that qualify for exemption from certain provisions of the Directive

This item is included *pro memoria*. For the purpose of the costing it is assumed that no exemptions will be applied for under this provision.

### 6 Hazardous waste treatment facility

#### 6.1 Preparation for new hazardous waste treatment facility

Very little is known about the quantities and types of hazardous waste generated in Albania. Most of the activities necessary to manage hazardous waste are dealt with in the DSIP on

the Landfill on Waste. The landfill of hazardous waste in a secure hazardous waste landfill is assumed to fall under the Landfill Directive, however. It is assumed that there will be a single hazardous waste management site located somewhere centrally in Albania. It is assumed that (in the early years at least) combustible hazardous waste will be incinerated, either in a cement kiln or an incinerator in Albania or another country. Non combustible hazardous waste will be treated at this facility and landfilled.

Preparation includes a feasibility study, EIA and final design, as well as providing the documentation needed for an application for finance.

### *6.2 Construction of new hazardous waste treatment facility*

## **7 Measures for dealing with waste tyres**

The Landfill Directive provides that waste tyres may not be landfilled (Article 5(3)). Of the options for dealing with scrap tyres, the most promising seems to be their combustion as fuel in cement kilns. In discussions with Titan Antea Cement (in Kruje) management expressed its interest in the use of used tyres as an alternative energy source, and its willingness to make the necessary investments. Antea has commissioned a study by Peer Consultants and ERM to evaluate the scope for the use of tyres and other waste-derived fuels in their Albanian factory. The study is expected to be completed in July. Although tyres have a high calorific value and can displace fossil fuels there are costs associated with using tyres, and cement manufacturers normally have to be paid to accept tyres. In addition a system has to be established to collect used tyres and to transport them to the cement manufacturer. It is assumed that such a system would be implemented by introducing a system of producer responsibility - tyre importers would be responsible for collecting tyres, transporting them to the cement factory and paying the cement factory a subsidy to accept the tyres.

### *7.1 Draft a plan for dealing with waste tyres*

Review technical options in the Albanian context. Hold discussions / negotiations with cement factories, and tyre importers/manufacturers. Review experience in other countries. Review legislation in Macedonia, hold discussion with MoEFWA and Ministry of Finance re appropriate financial instruments. Make recommendations.

### *7.2 Implement tyre recovery system*

It is assumed that agreement will be reached with the cement industry to burn waste tyres as fuel in cement kilns. Rough calculations suggest that Albania may currently be importing about 7000 tonnes of tyres per year.

## **8 Landfills for inert waste**

### **8.1 TA project on inert waste**

Inert waste is mainly construction and demolition (C&D) waste. The construction of inert landfills is much cheaper than other landfills because of the lack of physical and chemical reactivity, so that dumping of inert waste in the new regional sanitary landfills is not cost-effective. Furthermore it is questionable whether generators of C&D waste would be willing to spend time and money on transporting their waste to regional landfills. It is therefore

recommended that dedicated inert landfills are constructed for this waste where required. It is assumed that they would be built in about 40 more urbanised municipalities. The project would identify which municipalities should have such landfills, establish guidelines for the construction of such landfills, identify and implement mechanisms/instruments which would ensure that they are actually constructed and identify sources of donor funding, construct template for a feasibility study.

## 8.2 Feasibility studies for inert landfills

### *Construction of the municipal landfills for inert waste*

## 9 Financial aspects

### 9.1 *Develop a system to ensure that landfill prices are fully cost-recovering*

Article 10 of the Landfill Directive provides for measures to be taken to ensure that all landfill costs, including as far as possible the cost of the financial security (see below), and the estimated costs of closure and after-care are covered by the price charged for landfill.

Timing such that study starts when the results of the feasibility study for the regional landfill are available. Gather data on numbers of population covered and to be covered under improved service in municipalities concerned. Gather data on fee collection rates. Using detailed cost data in feasibility study, calculate charges required for full recovery of costs. Consider mechanisms (applicable generally) to increase collection to close to 100%. Plan phased increases in tariffs to achieve cost recovery over a reasonable period. Look at possibility of contracting waste collection on basis of a call for tenders. Identify and remove other obstacles to necessary changes, e.g. legislation. Plan and implement a public information and awareness campaign in the region. Write up a methodological manual to guide other regions as their landfills are constructed and come on stream.

### 9.2 *Establish a system for financial security suited to Albanian conditions*

Financial security may comprise a letter of credit from a bank, a bond, an insurance policy or a guarantee provided by a body of good financial standing. A financial/legal study needs to be made of the instruments which could provide the necessary security in Albania, and to draft the necessary regulation.

### 9.3 *Introduce a landfill tax*

This will need to be a collaborative venture between MoEFWA and the Ministry of Finance. The purpose is primarily to provide a deterrent to landfill, thus encouraging waste prevention, recycling and recovery, but the tax could also be used to augment the Environment Fund if such a Fund is introduced, thus helping to finance the construction of new landfills, for example.

## 10 Remediation of contaminated land sites

The obligation to remediate contaminated land is often ascribed to the Landfill Directive, based on the fact that the term 'landfill' is defined quite widely in EU waste legislation. Certainly many or all of the sites listed below would fall under the term landfill, and remedial activities are therefore included here.

The UNDP has carried a programme to identify 10 priority sites where the land is contaminated or where there are significant inventories of toxic chemicals stored. These are:

Site	Location	Brief description	Remediation cost (€)	Annual cost (€/yr)
Alba Film	Tirana	Former site of Alba Film. Buildings storing a number of toxic substances.	143,000	
Battery factory	Berati	Former smelter, battery casing unit and some other production buildings. The site covers an area of about 1.9 ha.	2,015,000	
Bitincke	Korca	Former mine. A number of piles of mineral waste in the main working area constitute a source of contamination to the surrounding area and nearby streams and cultivating land.	5,460,000	25,000
Dajti	Tirana	Storage of cyanides in a locked room in a market area.	52,000	
Ferrochrome smelter	Paper, Elbasan	Waste deposited from the ferrochrome smelter	38,350,000	25,000
Guri Kuq	Pogradec, Korce	Mine, tailings dam and an enrichment plant to treat Fe-Ni ore on shores of Lake Ohrid	2,275,000	25,000
Perrenjas	Librazhd	Contamination from mining activity	13,000,000	80,000
Rreshen	Rreshen	Pesticides dumpsite	507,000	70,000
Textile factory	Berat	Former industrial zone, 0.15 ha	195,000	
<b>TOTAL COST</b>			<b>61,997,000</b>	<b>225,000</b>

## 11 Inspection and enforcement

### 11.1 *Employ additional inspector*

For inspection and enforcement of landfills 1 f tpe, although a number of inspectors will be familiar with the work. This will include:

- inspections of new landfill sites prior to the commencement of disposal operations to ensure compliance with permit conditions
- inspections and enforcement actions related to existing and new landfills
- Ensure that minimum control and monitoring procedures are followed during the operational phase of landfill sites, that the results of monitoring are reported to the competent authority, and that corrective measures are taken if required by the competent authority
- Ensure that the analysis of the results of control and monitoring procedures is subject to quality control by competent laboratories
- Ensure that after closure of a landfill site (in accordance with the specified procedures) the operator remains responsible for the maintenance, monitoring and control of the site for as long as is required by the competent authority.

## 12 Reporting

12.1 Make information available to national and Community statistical authorities, when requested.

This includes data on amounts and types of waste going to landfill sites, and details of information provided in permit applications

12.2 Report to the Commission

This includes

- the list of exempted islands and isolated settlements (Art. 3);
- the national strategy to implement the reduction of biodegradable waste going to landfill (Art. 5);
- the implementation of the directive, every three years (Art. 15) following the format laid down in Commission Decision 2000/738/EC concerning a questionnaire for reporting on implementation;
- measures taken to comply with the directive (Art. 18); and
- transposition, with texts of the main provisions of national law adopted in the field covered by the directive (Art. 18).

## 3.4 Resources and Costs

This sub-section assesses the costs of approximating the Landfill Directive in Albania.

### 3.4.1 Method of cost estimation and sources of cost data

Since full transposition of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste will be achieved by the present project, there will be no further costs for transposition, and all the costs are implementation costs. The starting point for costing implementation was the list of interventions contained in Table 3.1.

The resource requirements of each action were estimated by the project experts. These resources comprised:

- human resources (the resources are generally assumed to be new resources which will be required on an ongoing basis), together with the normal resources needed to allow them to do their jobs (office space, desk, computer, stationery, administrative support, etc.),
- training,
- travel,
- technical and engineering measures including acquisition of the necessary waste management equipment,
- production of necessary documents,
- technical assistance projects/ experts (The resource allocated for technical assistance projects were based on estimates, drawing on experience, of the necessary technical assistance (TA) project inputs in terms of international and national consultants and other resources),

- expenses needed for any necessary consultation of the public and stakeholders, and of campaigns needed to inform these groups and raise their awareness,
- sampling and analysis,
- enforcement.

An estimate was made of the costs of these resources by the project experts. The unit costs used to estimate the costs of resources were based, where possible, on local data, but where local data were not available costs applying in other countries in South-East Europe were used. For the detail of how these estimates were made see Annex COST. The results of this costing are summarised below. The approach taken in the costing and some overall assumptions made are described in the following sections.

All costs are estimated in constant 2008 prices.

### **3.4.2 Assumptions made in costing**

In making such a costing certain assumptions have to be made. Some of the general assumptions are discussed here. More detailed action-specific assumptions are presented when the particular action is discussed.

#### *Year of Albania's accession to the EU*

An assumption has to be made in this regard because:

- (a) in principle Albania has to be in compliance with the relevant EU legislation by its date of accession (although in practice it will be able to negotiate deferment ('transition periods') for some of its more onerous obligations);
- (b) the financing status of the country will change when it accedes to the EU. It will cease to be eligible for the EU Instrument for Pre-Accession Assistance IPA and for assistance by most bilateral donors, but on the other hand it will become eligible for funds under the cohesion and social funds.

The year of accession is assumed to be 2015.

#### *Phasing of measures and investment*

Measures are phased at about the rate which is consistent with the assumed date of Albania's accession. In other words that plans will have been established and that implementation will be either complete or well advanced or, in the case of cost-heavy measures, are consistent with the kinds of transition periods which are likely to be negotiable with the EU.

### **3.4.3 Results of implementation costing**

A distinction is made between, on the one hand capital costs or 'one-off' costs, and recurrent or operating costs on the other.

The estimated costs of implementing the Landfill Directive are presented in Annex COST. The total estimated costs are capital/one-off costs<sup>2</sup> of €241 million and recurrent costs which rise to just under €16 million per year by 2026.

The table below shows the total costs, subdivided between the actors who will be responsible in the first place for the actions concerned.

Table 3.2: Overall implementation costs for the Landfill Directive, grouped by agency/ social partner primarily responsible

Agency/ social partner	One-off costs (€000)	Recurrent costs (€000/year)
MoEFWA <sup>1</sup>	77,707	767
Environment Agency <sup>2</sup>	400	14
MoPWT <sup>3</sup>	20,000	-
LGUs <sup>4</sup>	143,214	13,722
Industry <sup>5</sup>	-	1,400
<b>Total</b>	<b>241,321</b>	<b>15,904</b>

#### Notes:

<sup>1</sup> Including the environmental inspectorate, but excluding the Environment Agency. The MoEFWA is assumed to take primary responsibility in matters of national planning and supervision, and is also assumed to be the operator of the new hazardous waste processing facility.

<sup>2</sup> The Environment Agency is assumed to be responsible for permitting of the landfills. New landfills will be IPPC installations.

<sup>3</sup> The MoPWT is assumed to be responsible for the investment for the four landfills currently in construction or whose construction about to start.

<sup>4</sup> LGUs = Local government units (i.e. municipalities and communes), and associations of LGUs which join together to form RWMBs. The LGUs are the institutions whose duty it is to provide waste management services. It is assumed that for the future generation of regional landfills other than those mentioned under the preceding note the LGUs will take responsibility not only for the operation of the landfills, but also for the investment.

<sup>5</sup> This refers to the tyre industry, i.e. producers, importers and distributors of vehicle tyres

It can be seen that the lion's share of the costs relate to activities which are regional and local responsibilities. This reflects the fact that non-hazardous landfills will be the responsibility of local authorities.

MoEFWA is the agency with the lead responsibility in ensuring that the Directive is implemented. Its costs therefore relate mainly to the costs of planning the changes will take place, giving guidance to local government and other actors and to the cost of informing and building awareness of the public and other stakeholders. The treatment of hazardous waste at the planned facility will be a responsibility of the MoEFWA. Most of the one-off costs

<sup>2</sup> Both the terms *capital cost* and *one-off cost* are used here. This is because the term *capital cost* tends to be associated with tangible investments, whereas the term *one-off cost* simply means that the cost is not recurrent, but embraces not only capital costs but also for example the costs of a TA project.

shown above for MoEFWA - €62 of the €78 million shown - relate to the costs of cleaning-up the priority hotspots, it being assumed that it will not be possible to recover these costs from those responsible for the contamination, or from the present owners.

The table below shows the same costs grouped by the nature of the actions involved.

Table 3.3: Overall implementation costs for the Directive on Waste, grouped by type of implementation action

Type of action	One-off costs (€000)	Recurrent costs (€000/year)
New personnel <sup>1</sup>		533
Technical assistance and training	11,110	
Miscellaneous costs: travel, subsistence, sampling costs etc.		28
Waste infrastructure (equipment and civil engineering)	230,211	12,443
Waste management services <sup>2</sup>		2,900
<b>Total</b>	<b>241,321</b>	<b>15,904</b>

#### Notes:

<sup>1</sup> These are persons additional to those already employed. The costs include not only direct costs – the salaries themselves – but also indirect costs: office space, heating, stationery, administrative support and overheads.

<sup>2</sup> Waste management services here means (i) the monitoring and aftercare of the existing dumpsites and landfills after their closure, and (ii) the costs of collecting waste tyres and transporting them to a cement kiln for use as fuel.

Salary and indirect employment costs will rise by €533 thousand per year. Apart from the costs of one additional inspector and one additional person for permitting, this relates to 40 persons assumed to be required as the executive arms of the new regional waste management boards.

The costs are dominated by the equipment and engineering costs (95% of one-off costs, 78% of recurrent costs).

The main items of waste infrastructure are shown in the table below.

Table 3.4: Main items of waste infrastructure required for implementation of Landfill Directive (capital costs only)

Action no.	Item	Who?	€million
5.4	Construction of new non-hazardous landfills	LGUs	66
10	Remediation of priority contaminated land sites	MoEFWA	62
4.7	Closure of existing landfills	LGUs	35
3.2.4	Windrow composting plant in each of 12 waste areas	LGUs	24
5.1	Completion of outstanding projects for construction of EU-compliant landfills in Albania	MoPWT	20
8.3	Construction of the municipal landfills for inert waste	LGUs	12

3.2.3	Introduce separate collection of kitchen and garden waste in urban areas	LGUs	6
6.2	Construction of new hazardous waste treatment facility	LGUs	5

The costs do not include a provision for public awareness-raising. This is not because it is not necessary, but because this was included in the costs of implementing the Directive on Waste.

The burden presented by a cost depends not only on its magnitude, but also on the period over which it is spread or builds up. Some of the actions necessary to implement the Landfill Directive are spread over many years. For example action 5.4 *Construction of new landfills* is spread over the period 2016 to Year 2026. The graph below shows how cost builds up during the period Year 01 to Year 15. The amounts shown are the estimated cash expenditures during this period,

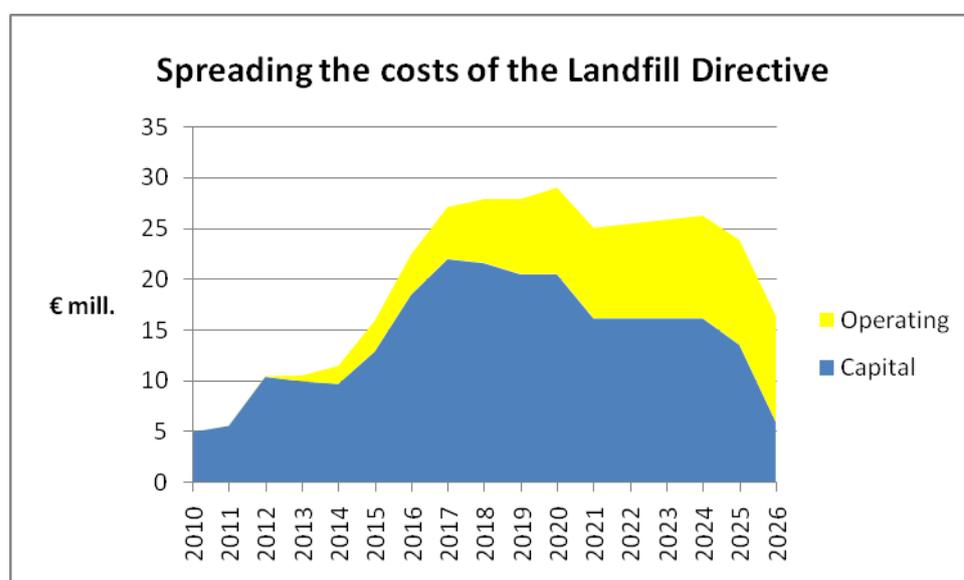


Figure 3.1: Spreading the cost of the Landfill Directive

The numerical values are shown in the table below.

Table 3.5: Phasing of costs Year 01 – 15 (€ millions)

	2010	2011	2012	2013	2014	2015
One-off	5	6	10	10	10	13
Recurrent	0.0	0.0	0.0	0.5	1.7	3.0
	2016	2017	2018	2019	2020	2021
One-off	19	22	22	21	21	16
Recurrent	3.9	5.1	6.2	7.4	8.5	8.9
	2022	2023	2024	2025	2026	
One-off	16	16	16	14	6	
Recurrent	9.3	9.7	10.1	10.3	10.4	

The capital expenditure reaches a peak of €22 million in 2017, and declines thereafter. The recurrent costs continue to mount year on year, reaching €10.4 million in Year 2026. In the later years, the additional costs are dominated by the recurrent costs.

## 3.5 Financing Strategy

### 3.5.1 Introduction

The purpose of this section is to look at how the costs identified in the previous section can be financed.

The starting point in allocating the costs of waste management in the future is the polluter pays principle. Article 14 of the Directive provides for the costs of waste management to be borne by:

- the original waste producer,
- the current or previous waste holders, or
- the producer or distributor of the product from which the waste came.

Apart from being a legal requirement, this is a precondition for the long-term financial viability and sustainability of the waste management sector, and will also provide an increasing incentive for waste 'producers' (i.e. including the producer of the related products) to reduce and recover waste.

The polluter pays principle means that the waste producers should as far as possible pay the full cost of managing their waste. However while the ultimate costs of waste collection and disposal will be met by waste producers, there is still a financing issue, since capital expenditure will be required for the collection, transport and disposal facilities, and householders at least cannot be expected to finance capital expenditure. It is assumed the Albanian government will, at least in the first place, take the initiative to establish the facilities for the collection, and upgrading for recycling or disposal of waste. This will involve raising the finance, even though the costs of this finance will ultimately be met by the waste producers.

### 3.5.2 Sources of funding - General

The main possible sources of funding are:

- waste producers (measures they take themselves);
- charges paid by waste producers to waste management service providers;
- fees for licences and other services;
- charges or taxes on new products intended to defray the eventual disposal costs;
- state, municipal or communal budgets;
- environment fund;
- EU pre-accession: grants from the IPA;
- EU post-accession: grants from the ERDF and Cohesion Fund (CF) - Post-accession;
- grants from other international donors;
- loans from international funding institutions;
- loans from bilateral financing institutions;
- loans from commercial banks;
- bonds issued by central or local government authorities;
- private capital (through PPP arrangements).

These various sources are considered below.

#### Waste producers (measures they take themselves)

For example producers of some wastes will take measures either voluntarily, perhaps as a result of measures taken or information disseminated by government in its prevention strategy, or compulsorily as a result of conditions set in their IPPC permits to reduce their generation of waste or as a result of the implementation of extended producer responsibility. This will be done at their own expense.

#### Charges paid by waste producers to waste management service providers

These will mainly be charges for waste collection and disposal. Waste producers are already paying such charges to local authorities and to transport contractors who transport their waste, but these charges are likely to rise to reflect the costs of complying with EU legislation. In addition, if or when waste producers ship the waste to the operators of an incinerator in another EU country, they will pay the costs involved directly to the operator of the incinerator and to the transport carrier.

#### Fees for licences and other services

If a fee is introduced for licensing or other administrative activities necessary in connection with waste management, the proceeds can be used to fund that activity.

#### Charges or taxes on new products intended to defray the eventual disposal costs

This may be an increase in price levied by the producer or importer of a product, or a tax levied by government. For example the government may invoke the principle of producer responsibility by regulating that producers/ importers of lead-acid auto batteries are responsible for the collection and disposal of their product in the waste phase. The latter will increase the price of the product to make provision for this liability. Alternatively the government may levy a tax on batteries and use the proceeds of this tax to itself set up the infrastructure needed to collect and deal with the batteries.

#### State, municipal or communal budgets

This may be either part of the regular budget or a special allocation earmarked to deal with a one-off or special situation. In particular, all recurrent and operating costs will have to be met from state, municipal or communal budgets.

#### Environment fund

An environment fund is a fund made up of the proceeds of specified taxes or charges. These taxes or charges might, for example be levied on the production or import of specific products which create large and problematic waste streams. The fund could then be used for appropriate waste-related projects. This could be an appropriate source of funding for dealing with historical contamination where no-one can be held to account for the damage and revenues cannot be easily generated the measures taken, for example, contaminated land which once accommodated industrial installations. These kinds of Funds have proved quite useful in other Eastern European Countries.

There is no specific environment fund at present in Albania. Although there have been suggestions that an environmental fund should be established in Albania, it is uncertain that there is sufficient political support for the idea to gain the necessary momentum. The Ministry of Finance has been resistant to the idea arguing that they distort the allocation of resources.

#### European Union

Obviously the European Union has been and will continue to be a very important source of financial support for Albania in its preparation for Community membership. Here it is necessary to distinguish between the period prior to accession and the period afterwards.

This is because the financial instruments for providing assistance change when a country accedes to the EU.

*EU pre-accession: Instrument for Pre-accession Assistance (IPA)*

The IPA was introduced in January 2007, and replaced various earlier EU programmes and financial instruments for candidate countries and potential candidate countries, such as PHARE, ISPA, SAPARD and CARDS.

The IPA is made up of five different components:

- I. Assistance for transition and institution building;
- II. Cross-border cooperation (with EU Member States and other countries eligible for IPA);
- III. Regional development (transport, environment and economic development);
- IV. Human resources (strengthening human capital and combating exclusion);
- V. Rural development.

Component I falls under the responsibility of the Commission's Directorate-General for Enlargement, which is also responsible for the overall co-ordination of pre-accession assistance. It involves institution building measures and associated investment, as well as transition and stabilisation measures where necessary. It is delivered through annual national and multi-beneficiary programmes.

Component II supports cross-border cooperation at borders between candidate/potential candidate countries and between them and the EU countries. DG Enlargement and the Commission's Directorate-General for Regional Development are jointly responsible for the implementation of component II. A joint application with the neighbouring country is required.

'Potential candidate countries' such as Albania are only entitled to components I and II above. When a country becomes a full candidate it receives support under all 5 components.

The EU makes multi-year indicative allocations according to the IPA Multi-annual Financial Framework MAFF. The current figures applying to Albania are as follows:

*Table 3.6: Indicative IPA allocations to Albania<sup>3</sup> (current prices)*

Year	Component I (€ million)	Component II (€ million)	Total (€ million)
2007	54.3	6.7	61.0
2008	62.1	8.6	70.7
2009	70.9	10.3	81.2
2010	82.7	10.5	93.2
2011	84.3	10.7	95.0
2012	86.0	10.9	96.9

These figures are based on guideline per capita rates applied by the European Commission of at least €23 per capita (2004 prices) for potential candidate countries. This rises to at least €30 per capita when a country achieves full candidate status, and rises further as accession approaches.

<sup>3</sup> Commission of the European Communities: Communication from the Commission to the Council and the European Parliament. Instrument for Pre-accession Assistance (IPA) Multi-annual Indicative Financial Framework for 2010-2012. Brussels 5 November 2008. COM(2008) 705 final.

To see how funding might increase when Albania is promoted to full candidateship, it is instructive to compare the position of Albania (now a potential candidate) with that of Croatia (now a full candidate). Most recent estimates put the population of Albania at 3.2 million<sup>4</sup>, only 3% lower than the population of Croatia (4.45 million). The IPA indicative allocations for 2007 to 2012 for the two countries are placed side-by-side in the table below.

*Table 3.7 Comparison of IPA allocation of Albania (potential EU member) with Croatia (full member)*

Year	Allocation Albania (current € million)	Allocation Albania (constant € million)	Allocation Croatia (current € million)	Allocation Croatia (constant € million)	Adjusted difference in %
2007	61	63.5	141	146.7	66%
2008	70.7	72.1	146	148.9	49%
2009	81.2	81.2	151	151.0	34%
2010	93.2	91.4	154	151.0	19%
2011	95	91.3	157	150.9	19%
2012	96.9	91.3	160	150.8	19%

Note: Constant prices in the above table are in €(2009).

The figures in the last column show the percentage by which the allocation for Croatia exceed that for Albania, **and are adjusted for the population difference between the two countries.**

On an adjusted per capita basis, the assistance for full candidate Croatia is 60% higher than for potential candidate Albania. It is therefore assumed (for the sake of argument) that Albania's IPA allocation will increase by 19% from 2013, that is to €109 million per year.

Both Turkey and Croatia use part of IPA component III to co-finance an Environmental Operational Programme (EPOP). This programme is used to help prepare the country for EU membership by providing assistance in meeting acquis-related obligations ('investment-heavy directives') and preparing to use the Structural Funds. In both Turkey and Croatia the EPOP is used for 3 priorities, namely the development of an integrated waste management infrastructure, water supply and sanitation and technical assistance. EPOP accounts for between 12 and 13% of the total IPA allocation. but is planned on a three-year cycle This allows IPA moneys to be used for larger projects, i.e. for major items of infrastructure.

#### *EU post-accession: grants from the structural funds (ERDF and CF)*

When Albania actually joins the EU it will be able to apply for funding under the European Regional Development and Cohesion Funds. It is not known at present how much would be available, but on the basis of the experience of the 2007 accession countries and of Romania and Bulgaria, amounts substantially exceeding pre-accession funding are likely to be available to help bring Albania's infrastructure up to EU standards. Albanian co-funding would almost certainly be required.

Since at present there are no statements whatsoever as to what will be available to Albania when it eventually accedes, we again look at a precedent, this time that of Romania, which acceded on 1 January 2007 a funding package of some €24 billion was established (Sector

<sup>4</sup> Data based on the civil registration system.

Operational Programme Environment - ENV 2017-2013), of which just under a quarter – €5.6 billion - for the environment. This splits 80%:20% between the EU and Romania, with disbursement mainly between 2010 and 2013. Almost one-quarter of this was for waste (including the clean-up of contaminated land)

If a similar per capita formula were applied in due course to Albania then the amount allocated would be about €683 million (EU share, 2009 prices, for the environment only). If 23% of this were allocated for waste management, then it could be assumed that an amount of €30.5 million p.a. would be available for each of four years starting, say, three years after accession, taking up where IPA leaves off. Again going on the precedent of Romania and Albania, it could be assumed that Albanian co-funding amounting to 20% of the total (i.e. 25% of the 30.5 million) would be required.

*Possible EU assistance pre- and post accession*

Based on the above assumptions it is possible to draw up an estimate of EU assistance for waste-related projects during the coming years.

First it is necessary to make an assumption about the timetable for Albanian accession. The assumptions made are shown in the box below.

Albania: assumed accession timetable

- Albania becomes full candidate: end of 2011
- Albania accedes to the EU: end of 2014

The financial assistance would then be as given in the table below.

Table 3.8: Estimated possible EU assistance to Albania for waste during the coming years (2009 prices)

Year	Total EU assistance to Albania (€million)	EU assistance for the environment Albania (€million)	For waste (€million)	Comments
2010	64		4.5	IPA 2007. Assume 7% for waste
2011	72		5.0	IPA 2008
2012	81		5.7	IPA 209
2013	91		6.4	IPA 2010
2014	91		6.4	IPA 2011
2015	109	40	19.9	IPA 2012 to 2014. 12.2% of moneys assumed to be allocated to Environmental Operational Programme. 50% assumed allocated to waste (including TA)
2016	109			
2017	109			
2018		131	30.5	Structural funds 23.3% of moneys assumed to be for waste management
2019		131	30.5	
2020		131	30.5	
2021		131	30.5	

The above figures allow for an average of 3 years from the year to which the IPA grant nominally applies to the time when the funds are actually disbursed.

The above amounts are somewhat speculative, based on extrapolating from terms offered by the EU in the past to recent entrants or states further along the road to accession.

Starting with the 2008 IPA allocation, Albania is expected to provide co-funding – from 10% for TA projects up to 25% for investment projects. However in the former case this co-funding may be ‘in kind’ rather than necessarily as a monetary contribution. Since this may include the salaries of participating public service counterparts, and since such participation is in any case desirable indeed necessary in a TA project, Albanian co-funding costs are assumed to be nil. Post-accession however there will be a local contribution in cash which on the basis of precedent (Romania and Bulgaria) might be 20% of the project costs (that is, 25% of the amounts shown above from 2018).

#### Grants from other international donors

According to the database of aid projects maintained by the foreign donor coordination unit within the Council of Ministers, non-EU donors have provided Albania with some €2600 million in aid over the last 9 years.

Of this total, some €366 million was for projects in the environment sector. Only €22 million (all grant funding), or about 1% of the total, was for projects in the solid waste sector, while €280 million went to water and sanitation projects. Most of the projects in the solid waste sector were for the remediation of historical problems of contaminated land.

The main donor governments and institutions during this period were the EU, Germany, Italy, Austria, and the Netherlands. The government should try to ensure that as much foreign aid as possible is directed towards assisting Albania to meet its accession obligations.

It is assumed that the mean assistance from non-EU donors on waste and contaminated land projects in the future will €2.5 million per year, up to the date of accession (on the assumptions made this means that disbursements continue until 2016).

#### Loans from international and bilateral funding institutions

The international funding institutions are development banks such as the World Bank (Albania is now a member of the IBRD), the European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB) which offer loans at a relatively low rate of interest for investments (amongst others) intended to establish or improve environmental facilities or infrastructure.

A number of West European countries, the USA, Japan and Canada provide financial assistance to central and eastern European countries through bilateral financing institutions. These differ in their areas of interest and modus operandi but, in general, operate along similar lines and with similar constraints to the IFIs.

The largest bilateral financing institution operating in Europe is the German Bank for Reconstruction (Kreditanstalt für Wiederaufbau – KfW). This lends money at soft rates to EU candidate countries.

Loans from commercial banks

Local authorities may be able to obtain loans from commercial banks, but the terms will be less favourable than from international and bilateral funding institutions. Not only is the interest rate likely to be higher, but the term of the loan would probably be shorter and there would probably not be a grace period.

Bonds issued by local government authorities

Most local authorities are probably not yet at a stage where they can envisage issuing bonds as a means of raising finance. This is because of their small size, the lack of an independent audit of their accounts, low quality of financial data, the need for obtaining a credit rating from organisations such as Standard & Poor, Moody's, etc.

Private capital (through PPP arrangements).

At a later stage during the period under consideration it may be possible to attract private capital for some environmental infrastructure projects. At one end of the spectrum, municipalities could effect a service contract with a private company to collect waste and deliver it to a waste treatment centre, materials recovery facility or recycling plant in return for a fee. This avoids the financing problem for government, since it is the private company which raises the necessary finance, and in principle the fee can be recovered from the charges raised to the waste producers. On a more sophisticated level, private contractors could operate a sizeable portion of the entire waste management system in a prefecture as a concession or under a BOT (build - operate - transfer) contract. Such constructions will require a number of developments before they can be envisaged in Albania, including reform of accounting in municipalities and communal enterprises, clear evidence that the state is willing to enforce the new laws and that municipalities are willing to allow the real waste management costs to be charged to waste producers and the emergence of credible operators of the new facilities.

**3.5.3 Sources of funding**

We now consider how the various components of capital and operating expenditure might be funded in future years. The costs which are the responsibility of central and local government are considered separately.

Costs for which the MoEFWA is responsible

The actions for which the MoEFWA is responsible are shown in the following table:

*Table 3.9 : Categories of cost for MoEFWA to implement Directive on Waste*

	<b>Capital / one-off costs (€000)</b>	<b>Operating / recurrent costs (€000/year)</b>
<b>MoEFWA/Environment Agency</b>		
Personnel, administrative		
Budget for consultancy, training, travel		
Technical assistance	3,330	
Hazardous waste management centre	5,000	500
Remediation of contaminated sites	61,997	225
<b>Total</b>		

\* Note this includes ½ of the cost of a TA project of which MoEFWA and MoH are joint beneficiaries.

All the (additional) administrative operating/recurrent costs, i.e. €145,000/ year, will have to be met in the first place from the *state budget*. However in fact these costs form part of the costs of waste management as much as the costs of the physical systems for collection, recovery and disposal of waste, and therefore should ultimately be borne by the *producer or holder of the waste*. However, realistically it will be some years before these costs can be recovered from producers.

The costs directly related to the management of hazardous waste, which is assumed to be a function taken on by MoEFWA (or an agency reporting to MoEFWA), i.e. the costs of purchasing and operating the collection vehicles and paying the drivers, should be met from the *charges levied on hazardous waste producers* for this service,

The costs of TA projects needed to build the capacity of Ministry personnel will amount to €11.6 million (this reflects the large scope of the new Directive on Waste). Grant funding should be sought for these projects from the *EU IPA (components I or IV) and/or from the international donor community*. The equipment for home composting included above will be distributed during the pilot exercise (see action 3.3), and this cost of €240,000 should be included in the TA budget of the associated project.

The costs of campaigns to build awareness amongst the public and involve citizens in planning and decision-making will be a matter for the *state budget*.

#### Costs for which the MoPWT is responsible

The investment required for the 4 sanitary landfills which are currently under construction or construction will start shortly is about €20 million. The financing of these landfills has already been planned and will be through a mixture of donor funding, funding from the state budget and loans from IFIs.

#### Costs for which the regions and local government are responsible

The costs of the regions and local government are considered together because the boundary between these two categories will not be clear until the precise organisational arrangements have been spelled out (for example in the national waste management plan). Waste management systems will be regional, but typically the regional management bodies are associations of municipalities and other local government units.

The actions which will be a regional/local responsibility and their costs are shown in the following table:

Table 13: Categories of cost for regional/local government to implement Directive on Waste

	Capital / one-off costs (€000)	Operating / recurrent costs (€000/year)
<b>Regional/local government</b>		
Personnel		504
Studies, TA, project preparation, etc.	7,780	
New regional sanitary landfills	65,800	5,500
Inert waste landfills	12,000	1,200
Closure of existing landfills	35,000	1,500

Separate collection of biodegradable waste	6,414	2,618
Composting plants	24,000	2,400
<b>Total</b>		

The employment costs of the additional personnel needed (these are the persons appointed on an executive basis to the RWMBs) are an integral part of the costs of waste management, and should eventually be met by charges made to households and other waste producers.

The item studies, TA, project preparation refers particularly to the feasibility studies, EIAs etc, which will be needed for the new infrastructure. Albania should look to obtain funding for this from the international donor community, including the EU. Such items are particularly suitable for IPA funding in the later pre-accession stage.

Major infrastructure and works will be required: closing the non-compliant landfills, building a system of new regional landfills and composting plants will cost around €100 million and will increasingly be a matter for local authorities. However it is assumed that this expenditure will extend over a substantial period (2015 to 2026), most of which will be after the start of accession when substantial grant funding is likely to be available from the ERDF/ Cohesion Fund for municipal infrastructure (waste management, water and sanitation).

The recurrent costs, on the other hand, will have to be met from local budgets, and will in turn have to be recovered from charges made to waste producers.

An investment of €6.4 million will be required for containers, hardstands and trucks for the separate collection of biodegradable waste, but here it is possible to get industry to contribute to the overall financing by drawing up service contracts which provide for the contractor to provide some or all of the capital equipment himself as part of the contract. The contractors then recoup their financing costs as part of the remuneration under the contract.

The investment programme will not be completed until perhaps a decade after Albania's accession to the EU. Towards the end of this period it is assumed that the country generally and local authorities in particular will be gaining in financial strength, and will be able to raise any finance still needed in the financial market, or make use of suitable PPP constructions.

As far as the inert waste landfills are concerned, although the local authorities are treated as being those with the primary responsibility for providing these facilities, in fact the building industry should be made to take responsibility for its own waste, including financial responsibility.

#### Costs for the tyre manufacturing and distribution industry

It is assumed that the tyre industry will be required to establish a scheme for ensuring that tyres are collected and safely disposed of. A possible solution for disposal will be to deliver the collected waste tyres to a cement factory for use as an alternative fuel. Some investments would be required, probably by both the tyre industry and cement factories which agree to accept waste tyres for burning. The cement factories would finance their investment from savings made in their consumption of fossil fuels, and possibly by a charge levied for the service provided. The tyre industry would meet its costs from an additional charge on tyres, typically of the order of €200/tonne, which would be paid by tyre users. This would of course be in accordance with the polluter pays principle.

### 3.6 Benefits

The likely benefits from compliance with this Directive are:

- Reduced pollution of groundwater and surface water by leachate and run-off from waste.
- Reduced contamination of soil by leachate and run-off from waste and from the deposit in dumpsites of hazardous and toxic liquids;
- Reduced greenhouse gas emissions as a result of the reduced landfill of biodegradable waste and the collection of landfill gas (rich in methane, a strong greenhouse gas) and its oxidation into carbon dioxide (a weaker greenhouse gas).
- Reduced health and safety risks to waste management workers, waste scavengers, citizens living close to waste facilities and the population at large.
- Reduction in the land required for waste disposal as a result of diversion of some streams from landfill and more space-efficient procedures, such as compacting.
- Reduction of fires, explosions, instability, odours, vermin and unsightliness at landfills.
- Reduced windblow and litter from dumped waste, leading to a cleaner countryside

### 3.7 Key Issues and Uncertainties

Success in implementing the Landfill Directive will depend particularly on three crucial factors.

*1. Having appropriate trained personnel in place charged with implementing waste policy and legislation, and able to operate effectively.*

Employment costs are relatively modest compared with the total implementation costs. And yet at present there are no persons at the MoEFWA engaged full time on waste management. There are always pressures to reduce costs in the civil service, but without a proper administrative infrastructure there is no hope of tackling what is widely agreed to be Albania's biggest environmental problem.

*2. Devoting adequate financial resources to waste management*

As is clear from the above, implementing the Landfill Directive will be a major financial challenge. There is the prospect of significant future funding from the EU and, at least until accession, from the wider donor community. But these must be leveraged with Albanian funding also. EU funding will increasingly require national co-funding. This means that firm commitments must be made and the financial resources earmarked for waste management in a sufficiently flexible manner that the funds really do materialise for well-prepared projects. This means a project pipeline funding mechanism with the limited resources going to well-prepared projects, rather than an *ad hoc* and piecemeal approach.

*3. Having an increasingly strong local government sector which with the legal powers and the financial and human resources which allow it to carry out its statutory duties.*

This means capacity-building and training, with a regulatory body to ensure accountability.

## **4 ANNEX 1**

### **Implementation Costing Sheet**

**ANNEX: IMPLEMENTATION COSTING SHEET FOR THE LANDFILL DIRECTIVE**

No.	Action/sub-action	From/to	Requirements			Costs		Explanation
			No.	Units	Unit cost (€)	Capital/ One-off (€)	Operating/ recurrent (€)	
<b>1</b>	<b>Assign competences, establish administrative structures, build capacity</b>							
1.1	Designate competent authorities	2011	-	-	-	-	-	
1.2	Appoint personnel at MoEFWA, assign tasks	2011	-	-	-	-	-	Allowed for already in DSIP for Directive on Waste. No further financial provision required.
1.3	Training, technical assistance	2011-2012	1	medium TA study	800,000	800,000		
1.4	Consultancy, training, travel and other miscellaneous activities needed to support waste management functions at MoEFWA	2011		LS			15,000	
<b>2</b>	<b>Permitting</b>							
2.1	Appoint staff for permitting	2012	1	senior	14,400		14,400	
2.2	2.2 Technical assistance for the training of permitting staff, development of procedures	2012-2013	1	small TA study	400,000	400,000		
<b>3</b>	<b>Draw up and implement national strategy for reducing landfill of biodegradable waste</b>							
3.1	Draw up national strategy for reducing landfill of biodegradable waste	2010	-	-	-	-	-	No additional costs. Costs of this activity already included in waste management planning activity in DSIP for Directive on Waste

3.2	<i>Implement national strategy for reducing landfill of biodegradable waste</i>	2012-2016							
3.2.1	Introduce home composting in rural areas	2012-2014	-	-	-	-	-	-	Already included in waste management planning activity in DSIP for Directive on Waste
3.2.2	Introduce <i>in situ</i> composting of park & garden waste	2013	-	-	-	-	-	-	
3.2.3	Introduce separate collection of kitchen and garden waste in urban areas	2014-2020				6,414,075	2,617,987		Assume that this measure increases the cost of collecting urban waste by 50%. Base costs from DSIP Directive on Waste
3.2.4	Windrow composting plant in each of 12 waste areas	2014-2020	12	composting plant	2,000,000	24,000,000	2,400,000		Where possible, composting plant will be at landfill, to benefit from synergies (i.e. utilities, access road)
4	<b>Existing landfills</b>								
4.1	Inventorise/survey existing landfills and dumpsites	2011-2012	300	days (local) consultant	100	30,000	-		
4.2	Identify sites where urgent action is necessary		-	-	-	-	-		
4.3	Draw up plan for urgent measures		-	-	-	-	-		
4.4	Make timetable for closure and remediation of existing sites		-	-	-	-	-		
4.5	Draw up and implement conditioning plans for existing landfill sites		-	-	-	-	-		
4.6	Technical assistance project on a number of activities related to the phase-out of existing landfills	2012-2013	1	short TA project		400,000			

4.7	Closure of existing landfills	2015-2025	100	ha	350,000	35,000,000		It is assumed that existing landfills will only have to be closed in accordance with the Landfill Directive if they are over over a certain critical size (e.g. 0.5 ha). It is difficult to estimate costs in the absence of detailed data on existing landfills (i.e. in accordance with activity 4.1 above). For the sake of the costing it is assumed that there are 50 such landfills with a surface area of 100 ha. That capping and rehabilitation costs total €350,000/ha.
4.8	Monitoring and aftercare of closed dumps/landfills	2016 increasing to 2026, continuing thereafter	50	closed landfills	30,000		1,500,000	Monitoring and aftercare costs are assumed to be €30,000/site
5	<b>New regional non-hazardous sanitary landfills</b>							
5.1	Completion of outstanding projects for construction of EU-compliant landfills in Albania	2010-2013		LS		20,000,000		Assumes that construction of Bajkaj, Maliq not yet started, Bushat 1/3 complete, Rreshen 1/3 complete
5.2	Preparation of projects for new regional sanitary landfills	2014-2024				6,580,000		10% of construction costs
5.3	Regional waste management boards (RWMBs) - personnel	2015-2025	3 senior, 1 junior	per landfill			504,000	
5.4	Construction of new landfills	2016-2026				65,800,000	5,500,000	From costing for national waste management plan

5.5	Identify landfill sites in isolated settlements that qualify for exemption from certain provisions of the Directive	2013	-	-	-	-	-	
6	<b>Hazardous waste treatment facility</b>							
6.1	Preparation for new hazardous waste treatment facility	2013-2015		LS		500,000		Technical assistance for project which builds on waste management planning and HW inventory referred to in DSIP on Directive on Waste: feasibility study, institutional study, EIA, application for permits, etc. 10% of capital value of facility.
6.2	Construction of new hazardous waste treatment facility	2017-2018		LS		5,000,000	500,000	First cell only of a single secure hazardous waste landfill, immobilisation plant, storage facilities, to be situated centrally and to serve the whole country
7	<b>Measures for dealing with waste tyres</b>							
7.1	Draft a plan for dealing with waste tyres	2011-2012	1	small TA study	400,000	400,000		It is assumed that such a system would be implemented by introducing extended producer responsibility - tyre importers would be responsible for collecting tyres, transporting them to a cement factory and paying the cement factory a subsidy to accept the tyres. These costs would be financed by a surcharge on tyres to be imposed by the importers

7.2	Implement tyre recovery system	2013-2015	7,000	tonnes	200		1,400,000	Comparison with similar countries suggests that Albania may be importing about 7,000 tonnes of tyres per year. Going a typical cost covering surcharge to be levied by importers would be €200 per tonne, including collection and transport.
8	<b>Landfills for inert waste</b>							
8.1	TA project on inert waste	2017	1	small TA study	400,000	400,000		
8.2	Feasibility studies for inert landfills	2017-2018				1,200,000		Feasibility study + EIA (if necessary) + obtain permits + final design. Assume 10% of infrastructure costs
8.3	Construction of the municipal landfills for inert waste	2019-2024	30	landfills	400,000	12,000,000	1,200,000	A total of 30 landfills are assumed to be constructed around the country. A relatively high density is assumed to reduce the risk of fly tipping.
9	<b>Financial aspects</b>							
9.1	Develop a system to ensure that landfill prices are fully cost-recovering	2014-2015	1	small TA study	400,000	400,000		This will cover both activities 9.1 and 9.2
9.2	Establish a system for financial security suited to Albanian conditions	2014-2015	-	-	-	-	-	Costs included in 9.1 above
9.3	Introduce a landfill tax	2014	-	-	-	-	-	No costs: a matter for discussion between MoEFWA and the Ministry of Finance
10	<b>Remediation of priority contaminated land sites</b>	2012-2025		LS		61,997,000	225,000	According to proposals and costing made by UNDP
11	<b>Inspection and enforcement</b>							
11.1	Appoint additional inspector	2013	1	senior	14,400		14,400	

11.2	Costs of travel, sampling and analyses	2013		LS			7,000	
<b>12</b>	<b>Reporting</b>							
12.1	Make information available to national and Community statistical authorities, when requested	2016 -->					3,000	Estimate
12.2	Report to the Commission	2016 -->					3,000	Estimate
	<b>TOTAL</b>					241,321,075	15,903,787	