

# Overview on relevant European legislation

## The Landfill Directive



**Information Exchange and Awareness Raising Event  
on LANDFILL of Waste  
Czech Republic  
Prague, 18-19 January 2007**



# EU Legislation - Legal Background for waste management

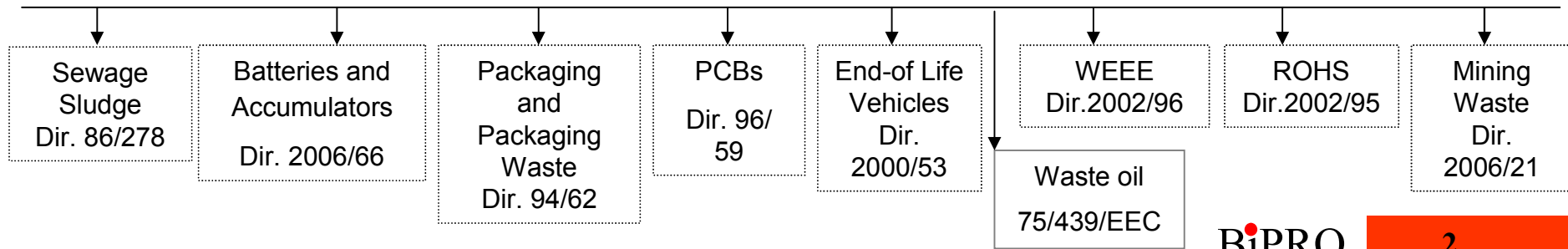
<p><b>Waste Framework Dir.</b> (2006/12/EC since 05.04.06) <i>(former Dir. 75/442/EEC)</i></p>	<p><b>Hazardous Waste Dir.</b> (Dir. 91/689/EC) with Dec. 2000/532/EC <b>EWC</b></p>	<p><b>Waste Shipment Regulation</b> (Reg. EC 1013/2006 since 14.06.06) <i>(former Reg. EEC 259/93)</i></p>
--	--	--

**Setting the framework/ Fundamental and general provisions/definition**

**Specification of waste treatment operations**

<p><b>Landfill Directive</b> (Dir. 1999/31/EC )</p>	<p><b>Incineration</b> (Dir. 2000/76/EC)</p>	<p><b>Recycling</b> Part of Recycling Strategy planned for 2007</p>
<p><b>Acceptance Criteria</b> (Council Decision 2003/33/EC)</p>	<p><b>IPPC</b> (Dir. 96/61/EC)</p>	

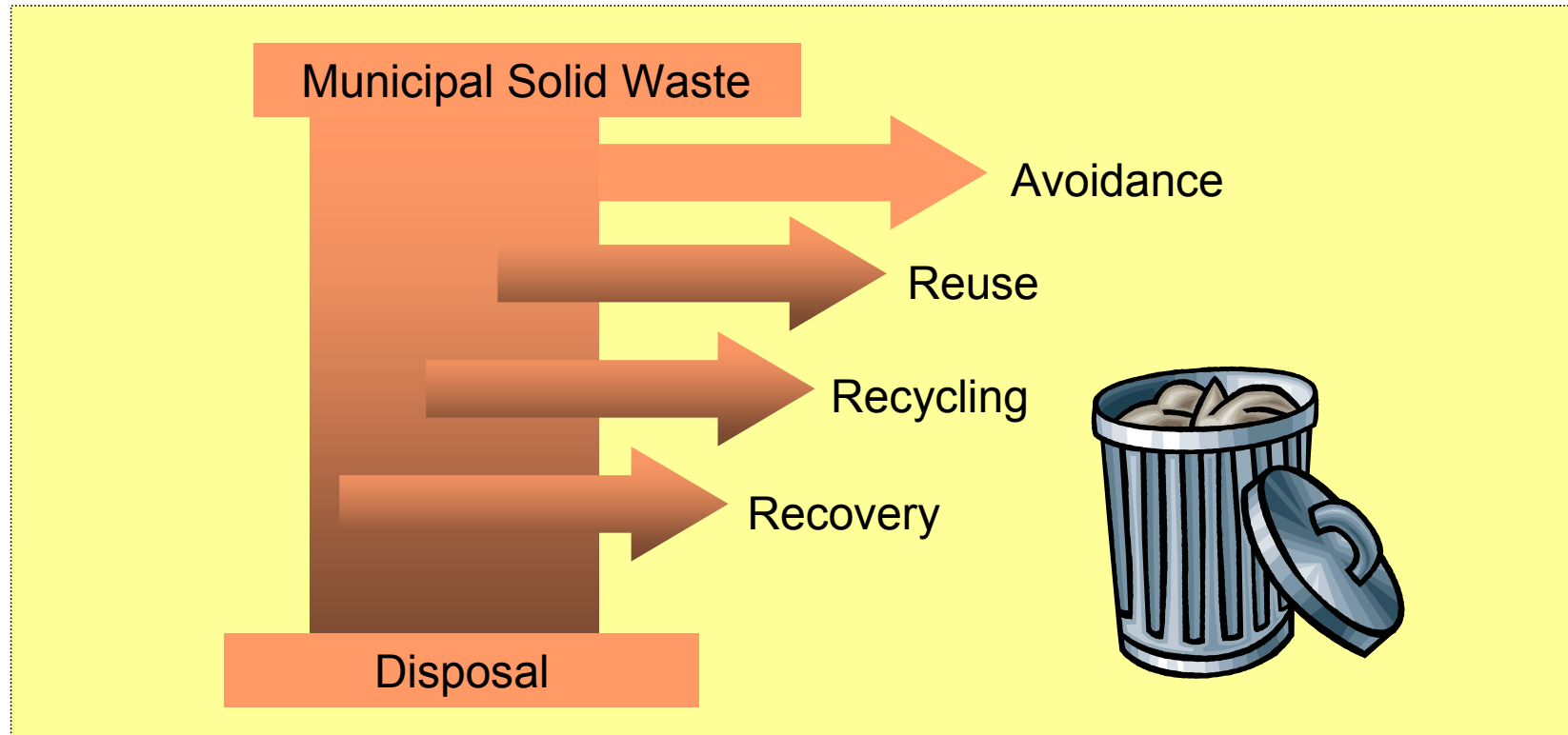
## Specification for single waste streams





## EU Legislation - Waste Directive

### Directive 2006/12/EC Article 3 –European Waste Hierarchy



**One of the priority within the Community Waste Strategy is the elimination of uncontrolled, unmonitored and mismanaged landfills and landfills without permits**



# EU Legislation - Waste Directive

## Directive 2006/12/EC– Management Principles (Article 5)

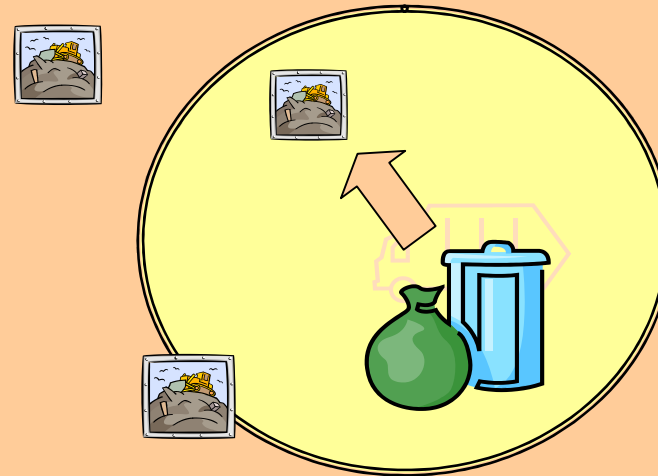
### Article 5(1): Principle of self-sufficiency

- Network of disposal installations
- Best available technology
- Not involving excessive costs



### Article 5(2): Principle of proximity

- Disposal in one of the nearest appropriate installations
- Most appropriate methods
- High level of protection





# EU Legislation - Waste Directive

Directive 2006/12/EC– Waste categories NOT covered (Article 2)



**Decommissioned  
explosives**



# EU Legislation - Hazardous Waste

## Directive 91/689 Article 1(4) – Categorization of hazardous waste

**hazardous** →

Definition (Art. 2 (c) 99/31/EC):

Any waste covered by Article 1(4) of Directive 91/689/EEC on haz. waste

### Annex I

describes category or generic type

- 1 Hospital and clinical wastes
- 2 Pharmaceuticals, medicines and veterinary comp.
- 3 Wood preservatives
- ...
- 40 other

### Annex II

describes constitutes of the waste

- C 1 beryllium and comp.
- C 2 vanadium comp.
- C 3 chromium (V1) comp.
- C 4 cobalt compounds
- ...
- C 51 hydrocarbons

### Annex III

describes properties of waste

- H 1 Explosive
- H 2 Oxidizing
- H 3 A Highly Flammable
- ...
- H 14 Ecotoxic



## EU Legislation - Waste Directive

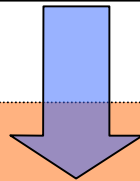
### Directive 2006/12/EC Article 1 – Disposal/ Recovery



**Disposal**  
operation listed in  
Annex II A



**Recovery**  
operation listed in  
Annex II B



#### Disposal Operation concerning landfills:

**D 1:** Deposit into or onto land (e.g. landfills etc.)

**D 5:** Specially engineered landfills (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)



## EU Legislation – Landfill Directive

### Directive 99/31/EC– Operations included (Article 3)

The Directive **shall be applied to landfills** as defined in Article 2(g)

#### Operations excluded from the scope of the Directive:

- Spreading of sludges on soil for the purpose of fertilisation
- The use of inert waste for redevelopment/restoration or construction in landfills
- The deposit of non-hazardous dredging sludges along waterways
- The deposit of unpolluted soil, non-hazardous inert waste from mining and quarrying



MS can declare that specific articles do not apply for landfills (<15 kt/<1kt/y) on isolated island or in **isolated settlements** (Notification to Commission required)



## EU Legislation - Landfill Directive

Directive 1999/31– Definition for landfills (Article 2 (g) )

'Landfill' means a waste disposal site for the deposit of the waste onto or into land (i.e. underground), including:

- internal disposal sites (waste disposal in place of production)

- a permanent site (i.e. more than one year) which is used for temporary storage

But excluding:

Facilities where waste is unloaded in order to permit its preparation for **further transport** for recovery, treatment or disposal elsewhere

Storage of waste prior to **recovery or treatment** for a period less than three years

Storage of waste prior to **disposal** for a period less than one year



# EU Legislation - Landfill Directive

## Directive 1999/31 – Classification of landfills (Article 4)

**inert**



**Definition Art. 2 (e):**

- Waste that does not undergo significant physical, chemical or biological transformation
- Waste will not dissolve, burn, biodegrade or react



bricks & tiles



glass & porcelain

**non-hazardous**



**Definition Art. 2 (b) + (d):**

- Municipal waste
- Waste not covered by paragraph (c)



e.g. municipal waste

**hazardous**



**Definition Art. 2 (c):**

Any waste covered by Article 1(4) of Directive 91/689/EEC on hazardous waste – listed showing the nature, constituents or properties listed in Annex I, II and III



e.g. chemicals



# EU Legislation – Landfill Directive

## Directive 1999/31– Waste NOT to be accepted in landfills (Article 5 (3))



### Liquid waste



Waste which is:  
**explosive, corrosive, oxidizing, highly flammable** (defined in Annex III of Directive on haz. waste)



**Hospital and clinical waste**  
from medical and veterinary establishments  
(defined as infections in Annex III of Directive on haz.waste)



Whole **used tyres** (from July 2003)  
Shredded used tyres (from July 2006), excluding:  
- used as engineering material (only whole tyres)  
- bicycle tyres  
- tyres with outside diameter above 1400 mm

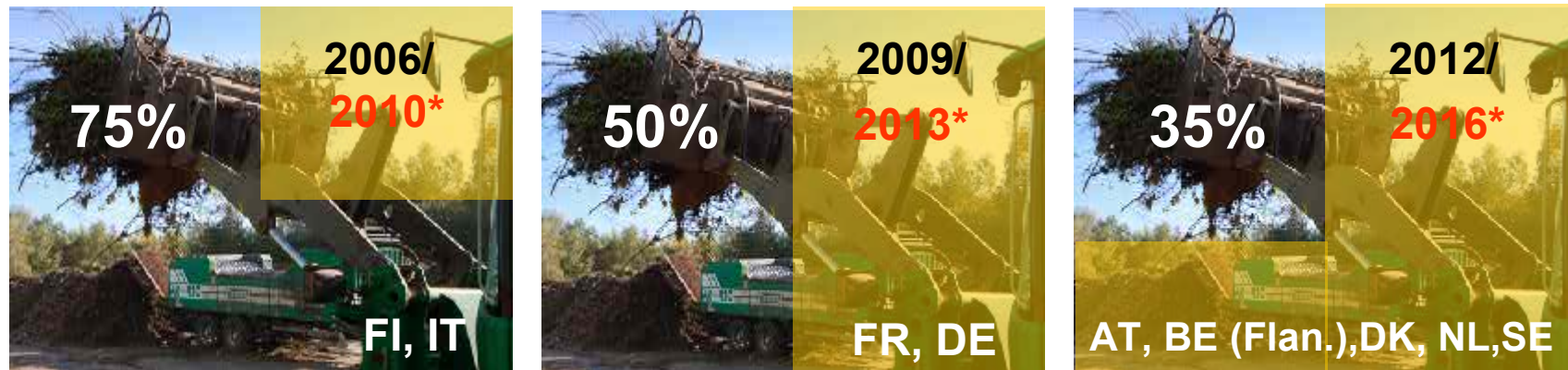


**Article 5(3): "The dilution or mixture of waste solely in order to meet the waste acceptance criteria is prohibited."**



# EU Legislation – Landfill Directive

## Directive 1999/31–biodegradable municipal waste Reduction targets (Article 5)



...of amounts stated 1995 in  
EUROSTAT (or latest year  
before)

Reached aim already in 2003

\*Countries which put more than **80% of Municipal Waste** (EUROSTAT 1995) into landfills may **extend the period for maximal 4 years**

**(Applies e.g. for: UK, ES, all 10 new MS)**

Commission will work on Standards for Composting from 2007 onwards



## EU Legislation – Landfill Directive

### Directive 1999/31–Biodegradable municipal waste Definition and major types (Article 2 (m)):

*'biodegradable waste'* means any waste that is capable of undergoing anaerobic or aerobic decomposition, such as:



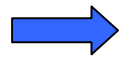


# EU Legislation - Landfill Directive

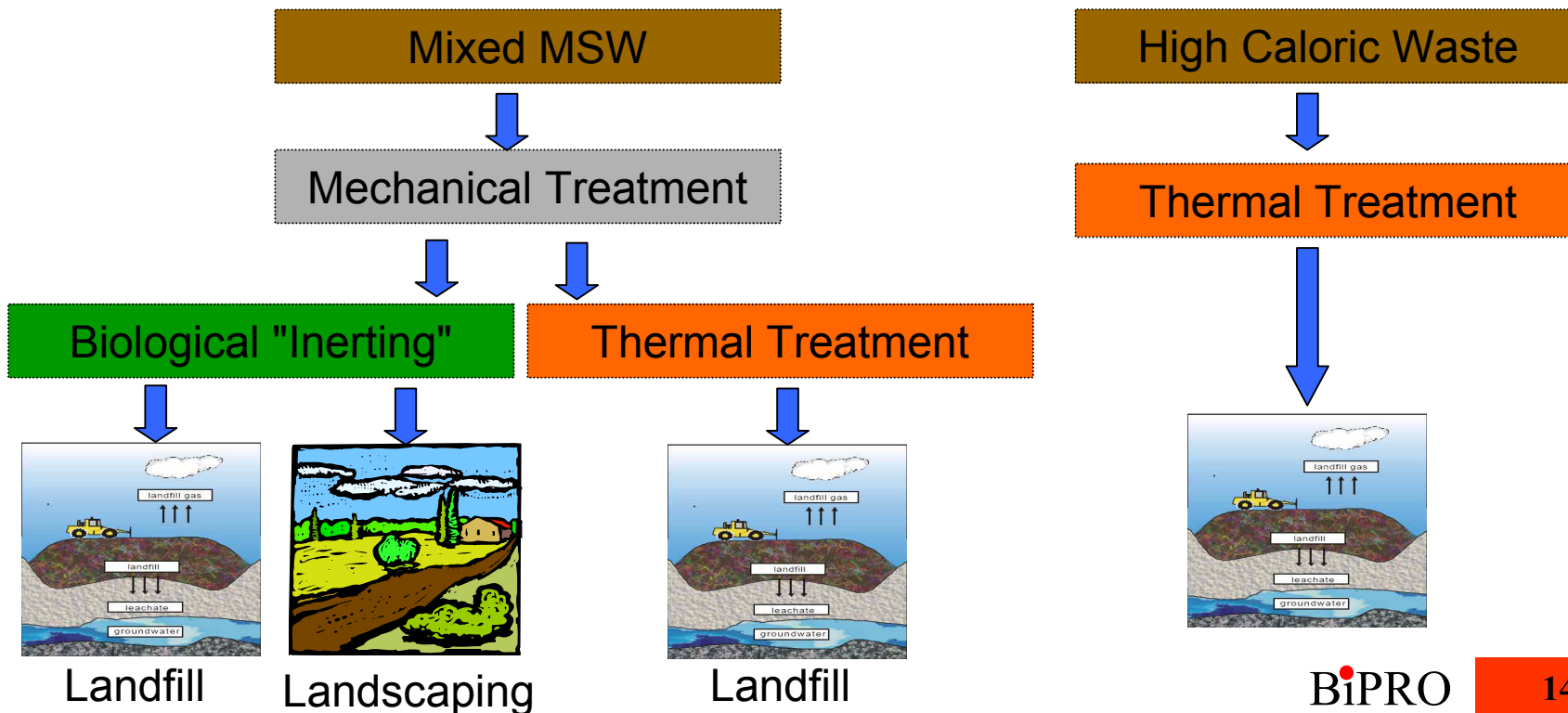
**MS shall develop national strategies for reduction using recycling, composting, biogas production and material/energy recovery**



**Diversion** (separate collection of paper and biowaste)



**Treatment** (stabilization by **biological** and/or **thermal** methods)





# EU Legislation - Landfill Directive

## 1999/31/EC - Siting and general requirements for landfills (Annex I)

### 1. Location

Distance to residential areas, recreational areas, waterways.  
Waterbodies, agricultural or urban sites  
Existence of water or nature protection zones  
Geological and hydrogeological conditions  
Risk of flooding, subsidence, landslide or avalanches  
Protection of nature or patrimony

### 2. Water control and leachate management

Control water from precipitation; prevent surface or ground water from entering the landfill body/waste, leachate collection

### 3. Protection of soil and water

Geological barrier, sealing system

### 4. Gas control

Collect, treat, use

### 5. Nuisance and hazards

Minimise odour, dust, noise, traffic, birds, vermin, insects, fires

### 6. Stability

Place in a way to avoid slippage and settling

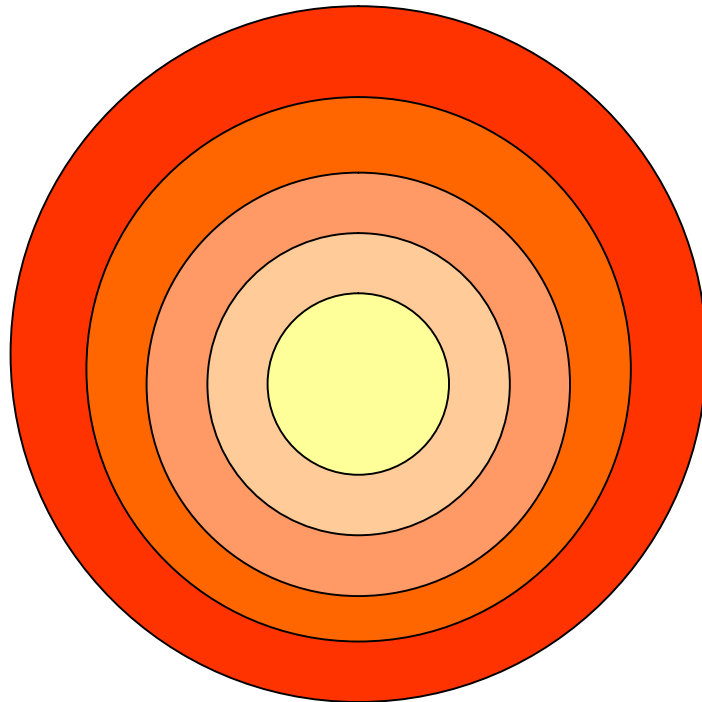
### 7. Barrier

Prevent free access and establish system to detect illegal dumping



# EU Legislation - Landfill Directive

## Summary: The main safeguards of a landfill



Safeguard 1: **Site selection** (hydrogeology)

Safeguard 2: **Sealing** (bottom and top)

Safeguard 3: **Gas control**

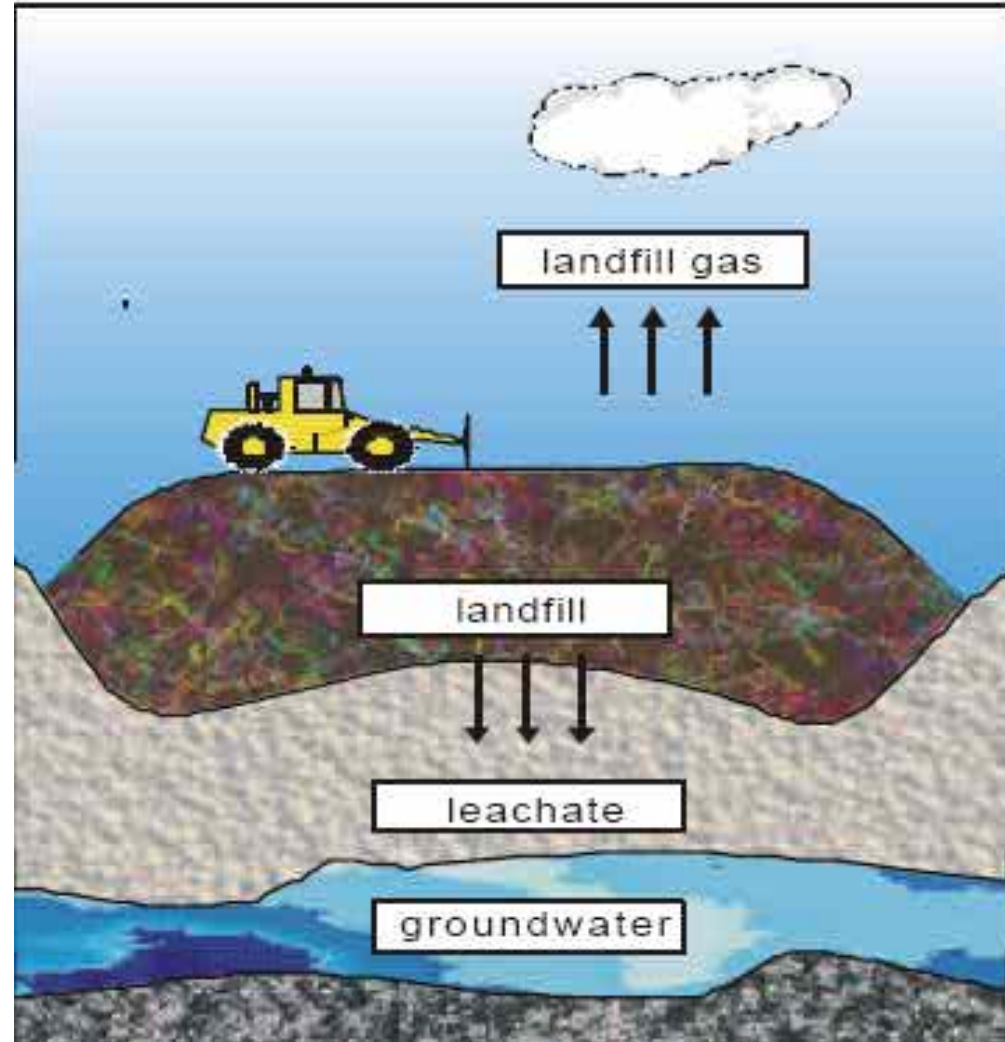
Safeguard 4: **Leachate management,  
collection and treatment**

Safeguard 5: **Stability and access control**



## EU Legislation – Directive 1999/31/EC

- ➔ Authorization
- ➔ Operation
- ➔ Closure
- ➔ Aftercare





## Authorization of Landfills

### Art.7 and 8 of 99/31/EC – Permit for disposal operation

#### Application for permit: (Art. 7)

- (a) Identity of applicant and operator
- (b) Description of types and total quantities of waste to be deposited
- (c) Proposed capacity
- (d) Description of disposal site (incl. Hydrogeology and Geology)
- (e) Proposed methods for pollution prevention and abatement
- (f) operation, monitoring and control plan
- (h) EIA accord. 85/337/EEC if required
- (i) Financial security

#### Conditions of permit: (Art. 8)

##### Issue of permit only if

- a (i) relevant requirements fulfilled
- a (ii) management in hand of person technically competent; development and training provided
- a (iii) necessary measures taken to prevent accidents and limit consequences
- a (iv) adequate provisions (financial security) to ensure obligations including after-care
- (b) In line with relevant WMP
- (c) inspection by competent authority prior to commencement of disposal



## Authorization of Landfills

**Directive 1999/31/EC– Minimum content of permit (specifying and in supplement to provisions in Dir. 2006/12/EC and Dir. 96/61/EC)**

**Permit shall state (Art 9):**

- (a) Class of landfill
- (b) Defined Types and total quantity of waste authorized for deposition
- (c) Requirements for preparation, operation, monitoring, control incl. Contingency plans (Annex III,4B), provisional requirements for closure and after-care
- (d) Obligation of annual reporting to competent authorities on type and quantities of waste disposed and results of monitoring (acc. Art. 12/13 and Annex III)



## Authorization of Landfills

### Directive 2006/12/EC– Permit for disposal operation

#### **Permit shall cover (Art 9(1)):**

- (a) Types and quantities of waste
- (b) Technical requirements
- (c) Safety precautions to be taken
- (d) Description of disposal site
- (e) Treatment method

#### **Permits may be (Art. 9(2)):**

- Granted for specific period
- Renewable
- Subject to conditions and obligations
- Refused, if the intended method of disposal is unacceptable



## Authorization of Landfills

### Directive 1996/61/EC (Art. 9) – Permit for IPPC installation\*

- Description of installation and its activities
- Raw and auxiliary materials used or generated
- Source of emission
- Conditions of the site
- Nature and quantities of forecastable emissions
- Proposed technology for emission prevention and reduction
- Measures to monitor emissions
- Measures to prevent pollution, use energy efficiently, prevent accidents, remediation and after-care

\*applicable to landfills receiving >10 t/d or total capacity of 25 kt, excluding landfills for inert waste



## European Legislation – Landfill Directive

### Directive 1999/31/EC - Cost calculation (Art. 10)

**Member States shall take measures to ensure that all costs involved in :**

- (a) Setting up
- (b) Operation
- (c) Financial security (as far as possible)
- (d) Estimated costs of closure and after-care for a period of at least 30 years

**are covered by landfill fees for disposal**

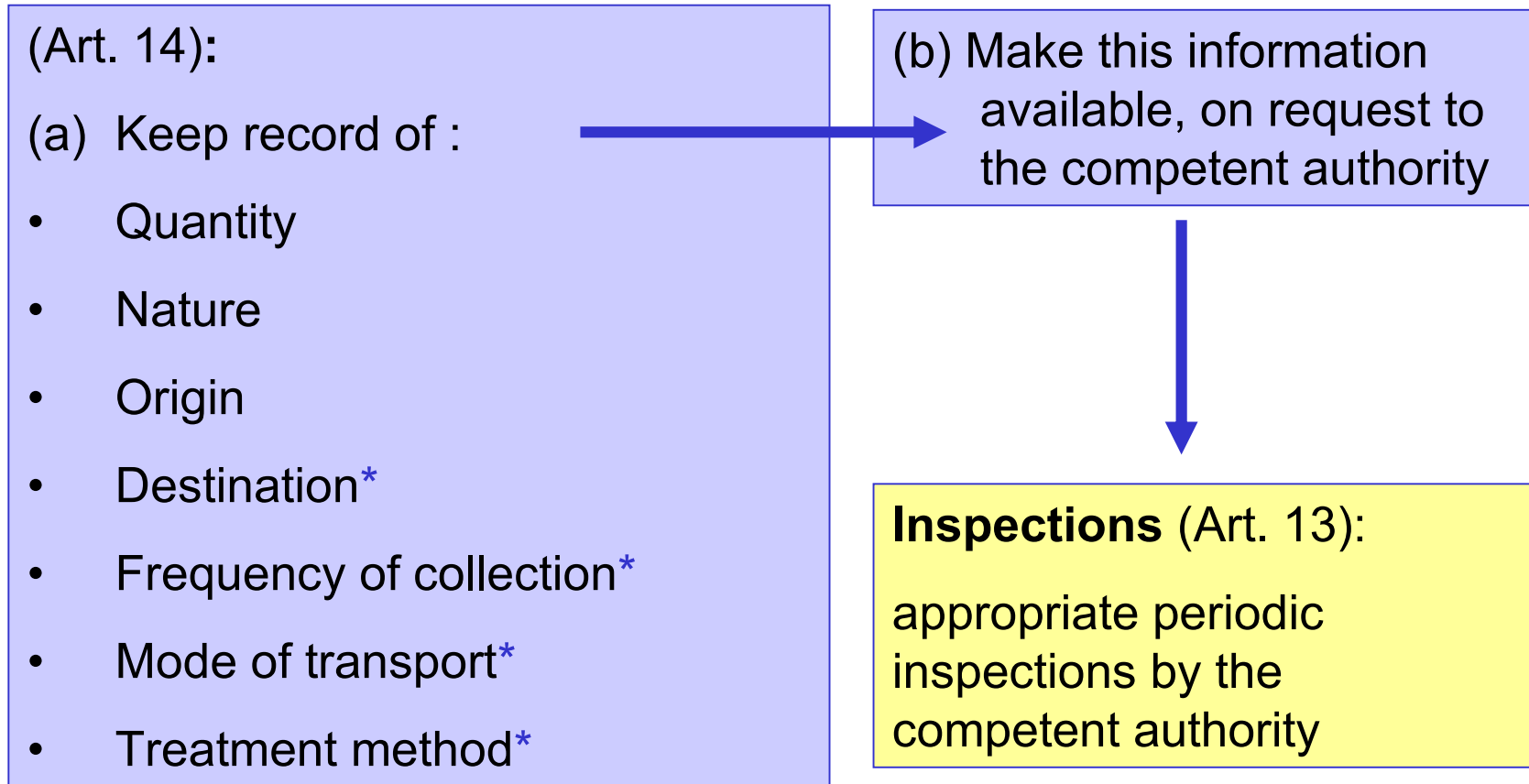
Transparency in collection and use of necessary cost information shall be ensured acc. to Directive 90/313/EEC (free access to environmental information)



# Operation of Landfills

## Record keeping and Control

( basic requirements in 2006/12/EC; further specifications in 99/31/EC)



\*Where relevant



## Operation of Landfills

### Record keeping and Control (99/31/EC)

(Art. 11 b):

(a) Install register on :

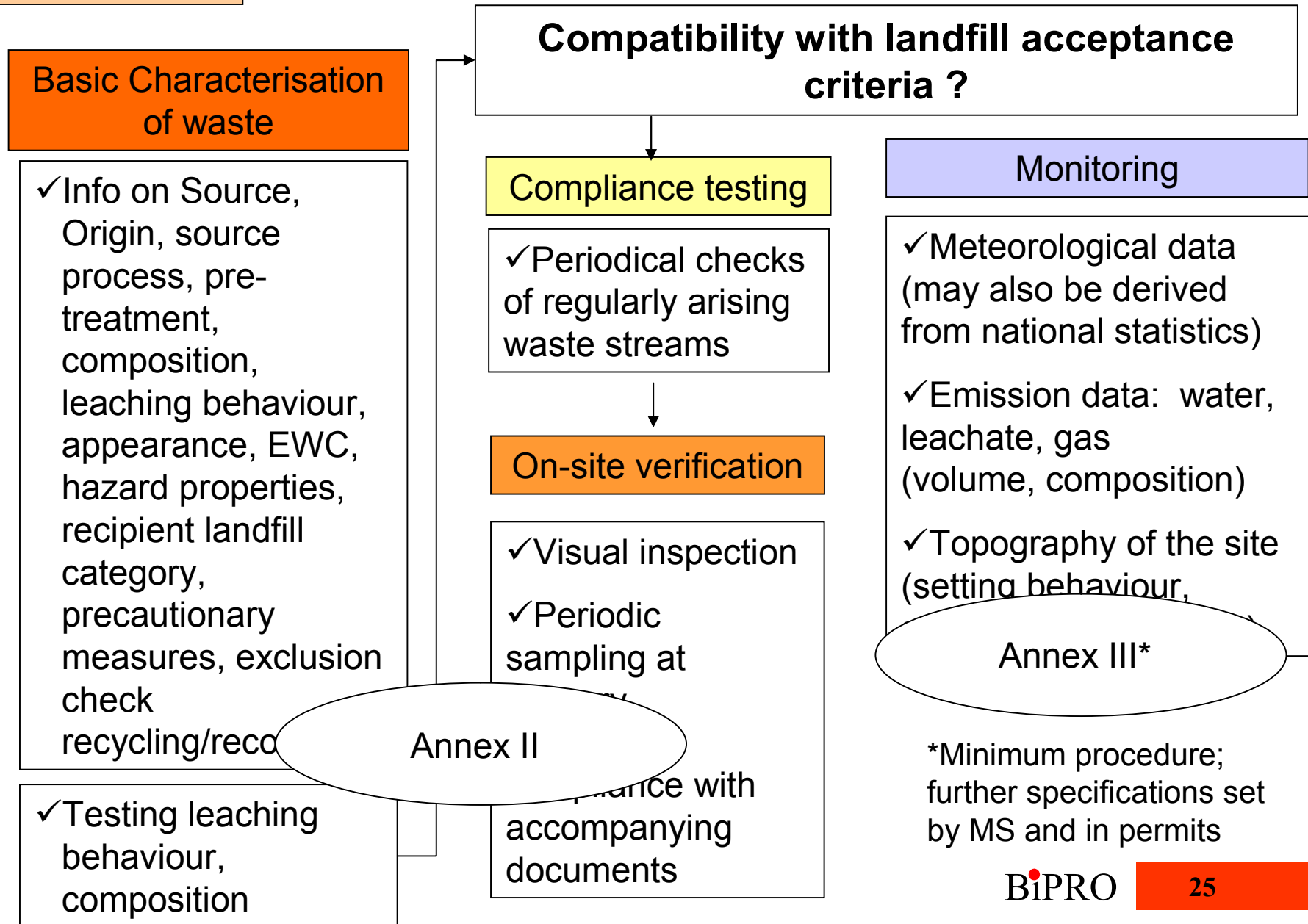
- Quantity
- Characteristics
- Origin (producer, collector)
- Location on site (for hazardous waste)

(b) Make this information available, on request to the competent authority

Written acknowledgement of receipt !



# Acceptance control, Monitoring (Art. 11 & 12)





## Criteria and procedures for acceptance of waste at landfills (Decision 2003/33/EC)

### **Landfill for inert waste:**

short list of acceptable inert wastes,  
specific leaching limit values

### **Landfill for non-hazardous waste:**

municipal waste, gypsum waste, stable, non-reactive  
hazardous waste;  
specific leaching limit values

### **Landfill for hazardous waste:**

specific leaching limit values

**Standards for  
sampling and  
test methods  
to be applied  
by July 2005**



## Closure/ Aftercare of Landfills (Art. 13)

### Start of closure according to:

- permit,
- at request of operator
- at decision of authority

### Operator responsible for maintenance, monitoring, control as long as required by authority

Monitoring  
(acc. Annex III Landfill  
Directive)



- Meteorological data
- Emission data: groundwater, leachate, gas (volume, composition)
- Topography of the site (structure and composition, setting behaviour)

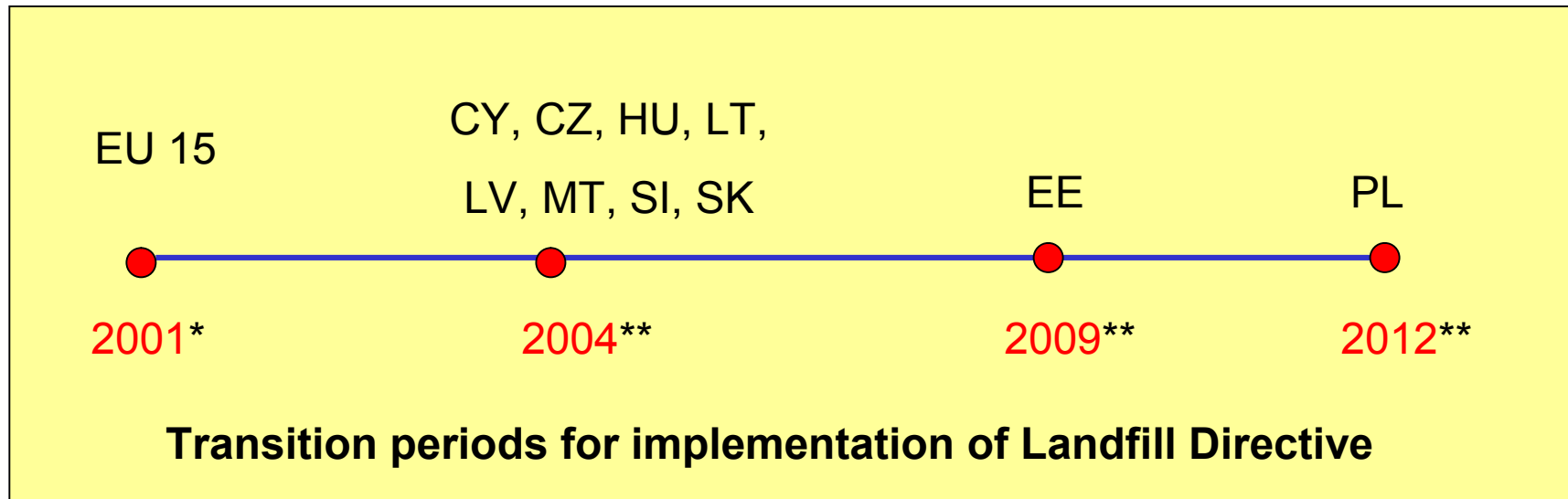
### Notification of any significant adverse environmental effect revealed by control procedures

### Execution of corrective measures following on decision of authorities



## EU Legislation – Landfill Directive

**Directive 1999/31 – Transition periods for application of legal requirements in new Member States (new installations)**



**\*Article 18**

**\*\* Declaration of Accession**



## EU Legislation – Landfill Directive

### Directive 1999/31 – Requirements for existing installations (Art. 14)

Existing installations



( permit granted or in operation at the time of transposition of the Directive)

**may not continue operation**

as soon as possible and  
**2009** at the latest

unless the following steps have been accomplished:

- (a) Operator presents conditioning plan for the site including all aspects required for permit under this Directive and corrective measures needed to comply with the requirements
- (b) Competent authorities take definite decision whether operation can continue on the basis of the plan and the requirements of 99/31/EC; if required measures to close the site in accordance with Art. 13
- (c) In case of approval, authorisation of necessary work and setting of transitional period for completion