

Overview on relevant European legislation

The Landfill Directive



**Information Exchange and Awareness Raising Event
on LANDFILL of Waste
Slovenia**

Ljubljana, 31 January / 1 February 2007



EU Legislation - Legal Background for waste management

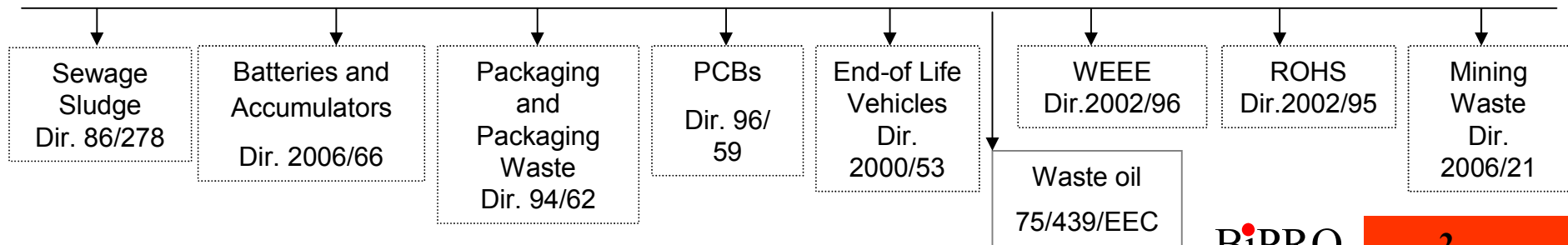
<p>Waste Framework Dir. (2006/12/EC since 05.04.06) <i>(former Dir. 75/442/EEC)</i></p>	<p>Hazardous Waste Dir. (Dir. 91/689/EC) with Dec. 2000/532/EC EWC</p>	<p>Waste Shipment Regulation (Reg. EC 1013/2006 since 14.06.06) <i>(former Reg. EEC 259/93)</i></p>
--	--	--

Setting the framework/ Fundamental and general provisions/definition

Specification of waste treatment operations

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

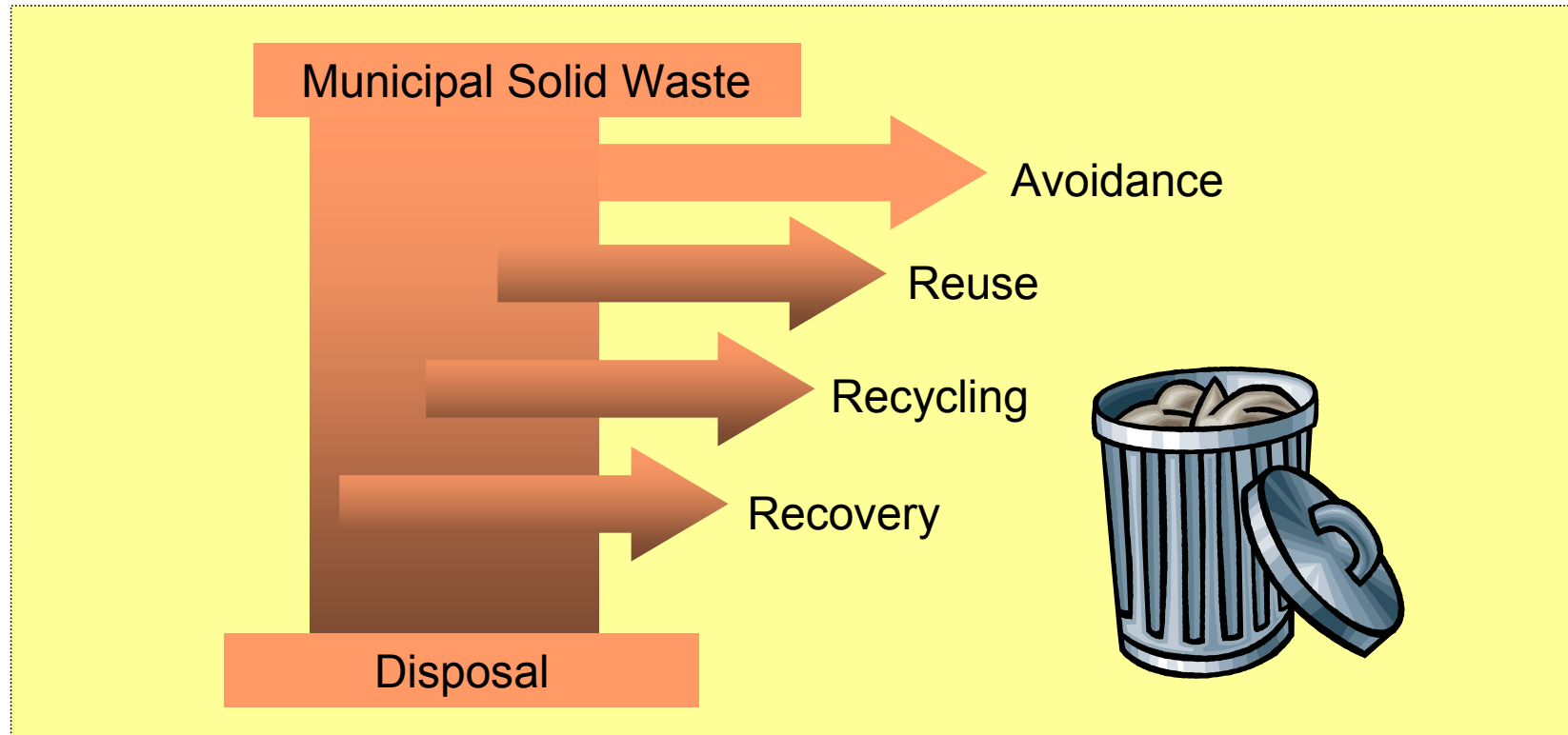
Specification for single waste streams





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)

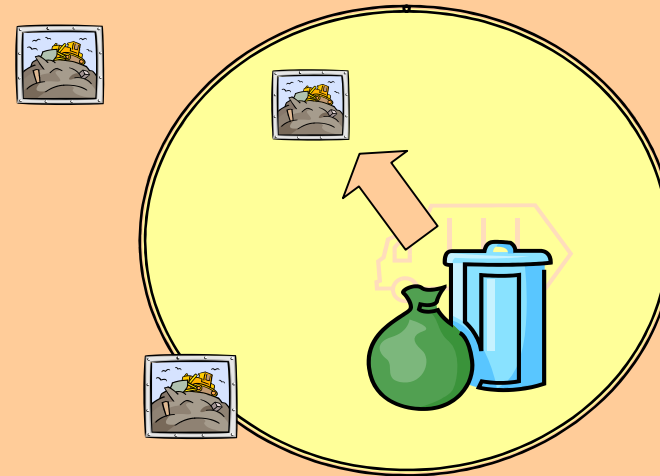
Article 5(1): Principle of self-sufficiency

- 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

All hazardous wastes must be **categorized** with their unique **European Waste Code** (EWC, 6 digit code) derived from the Annexes of Decision 2000/532: List of hazardous waste



EU Legislation - Waste Directive

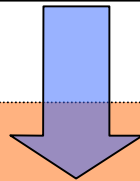
Directive 2006/12/EC Article 1 – Disposal/ Recovery



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 - Waste Directive

Directive 1999/31/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 to be accepted in landfills (Article 6)

(a) only waste that has been subject to **treatment** is landfilled.

Definition of treatment (Art. 2 (h))

"treatment" means

- Physical processes
 - Thermal processes
 - Chemical processes
 - biological processes
-
- including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery





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

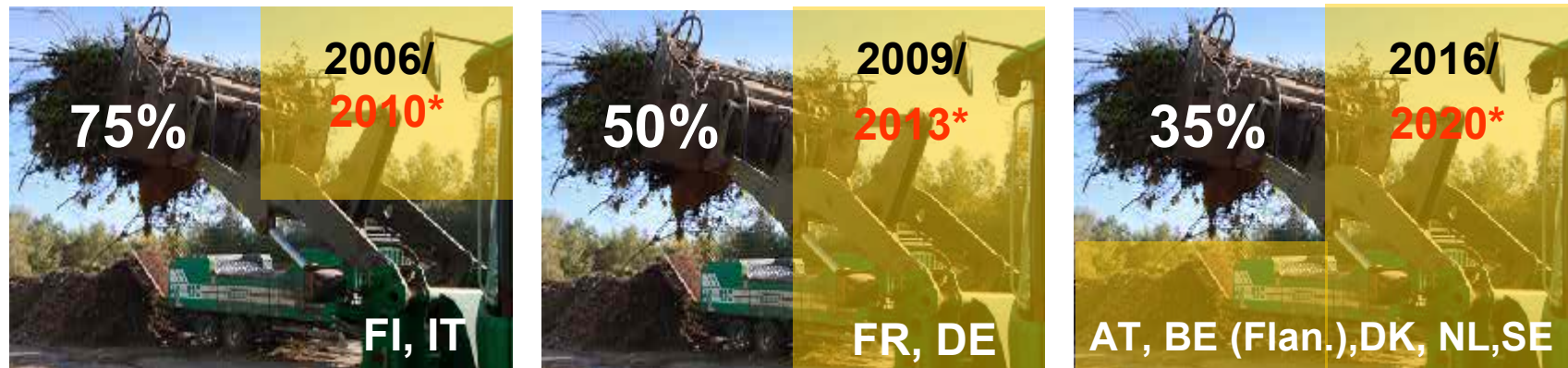


Article 5(3): "The dilution or mixture of waste solely in order to meet the waste acceptance criteria is prohibited."



EU Legislation – Landfill

Directive 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:



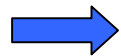


EU Legislation - Landfill Directive

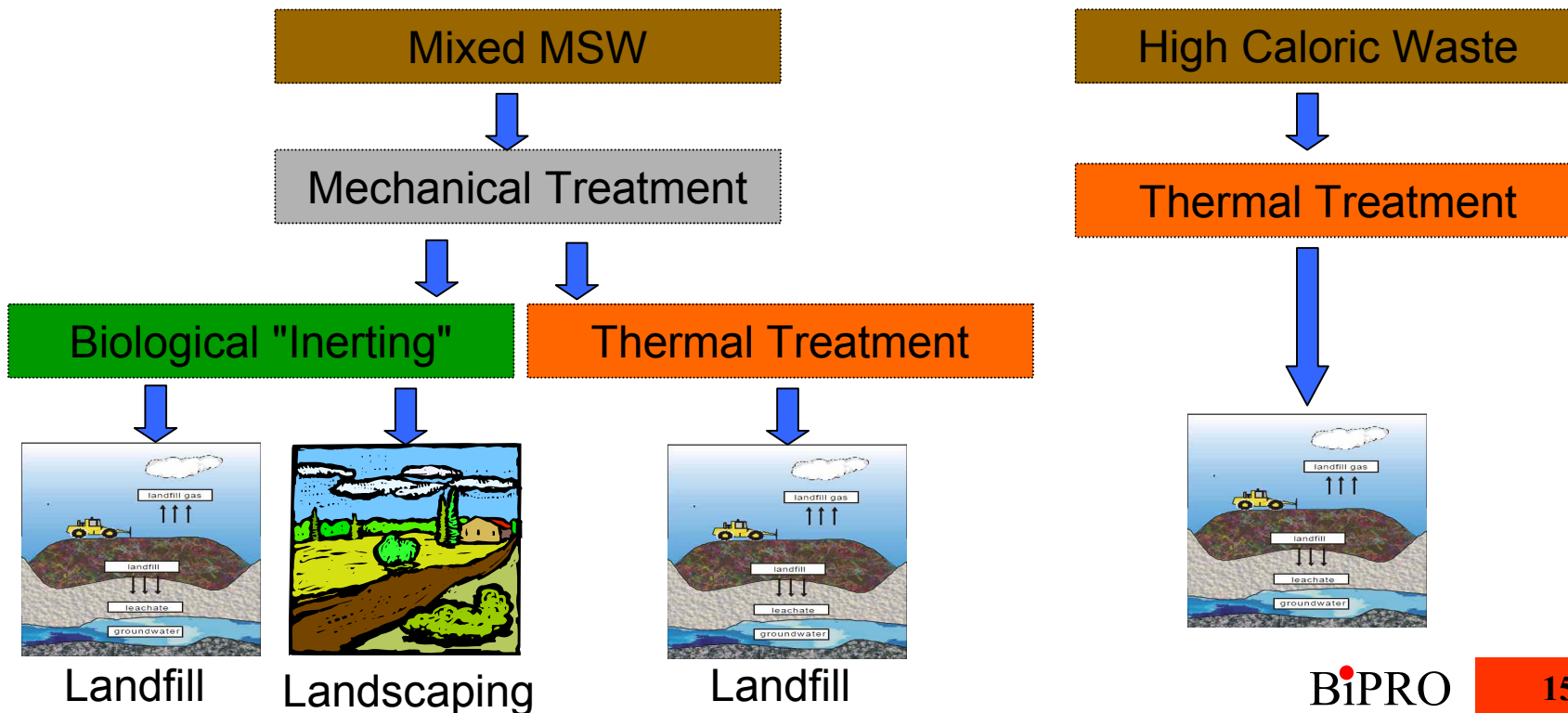
MS shall develop national strategies for reduction using recycling, composting, biogas production and material/energy recovery



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

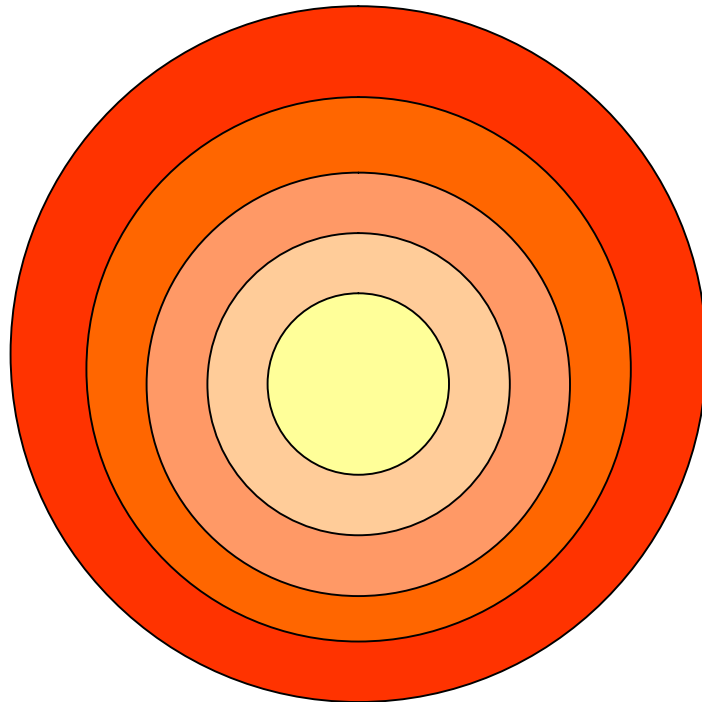
7. Barrier

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**

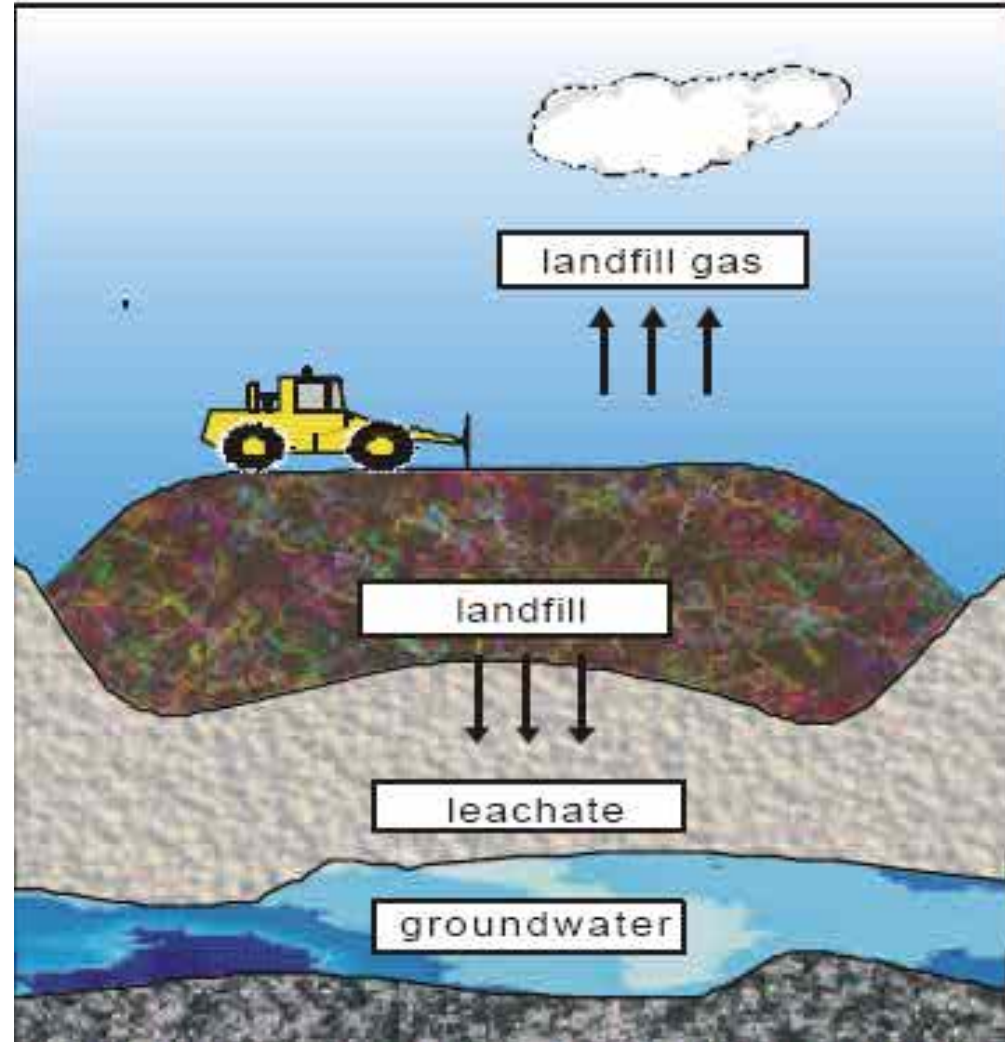
Safeguard 5: **Stability and access control**

*Prevent surface water and groundwater entering into the landfilled waste (Annex I, 2)



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

**To be paid
by owner,
collector or
producer**

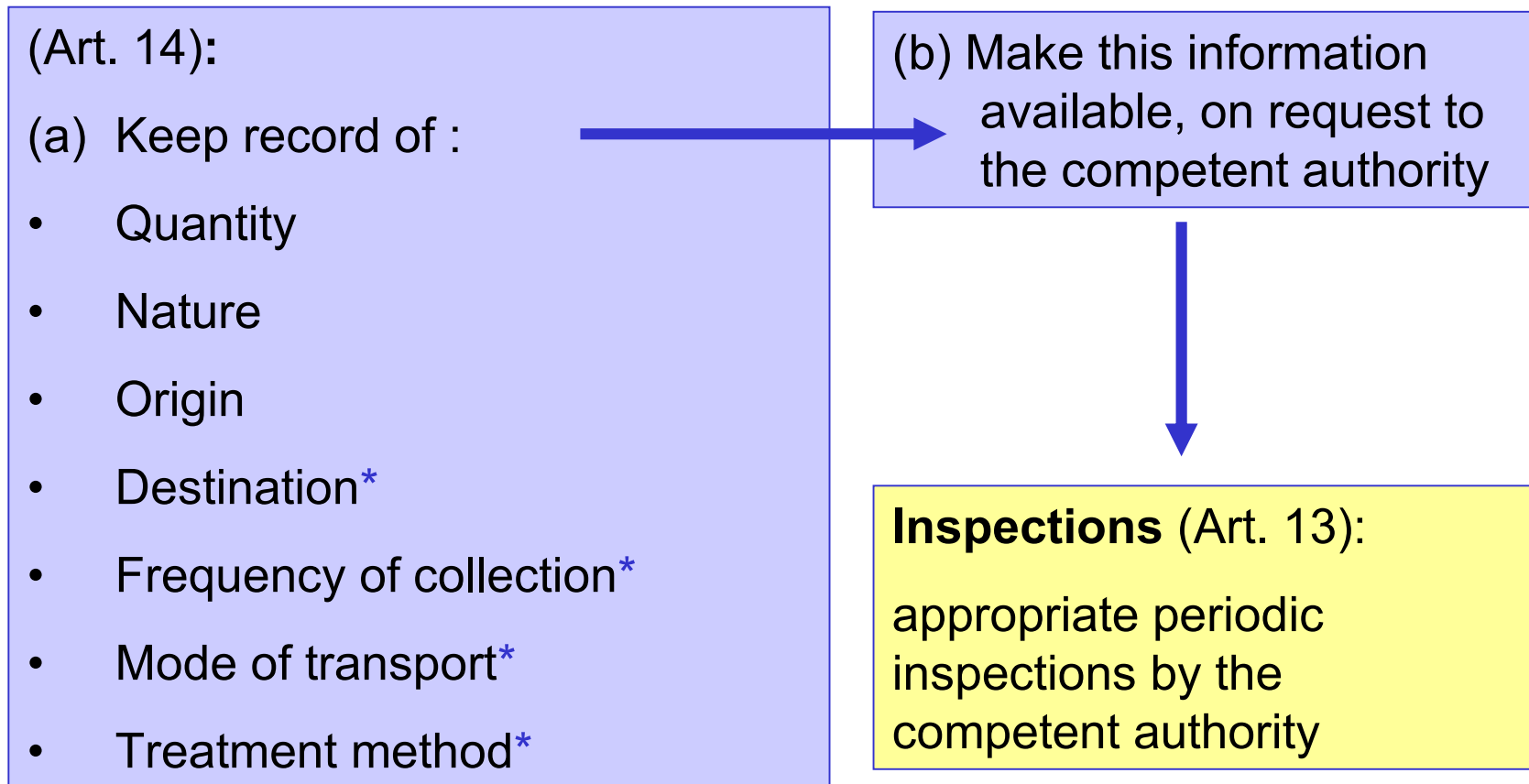
Transparency in collection and use of necessary cost information shall be ensured acc. to Directive 90/313/EEC (free access to environmental information)



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(1) b):

Install register on :

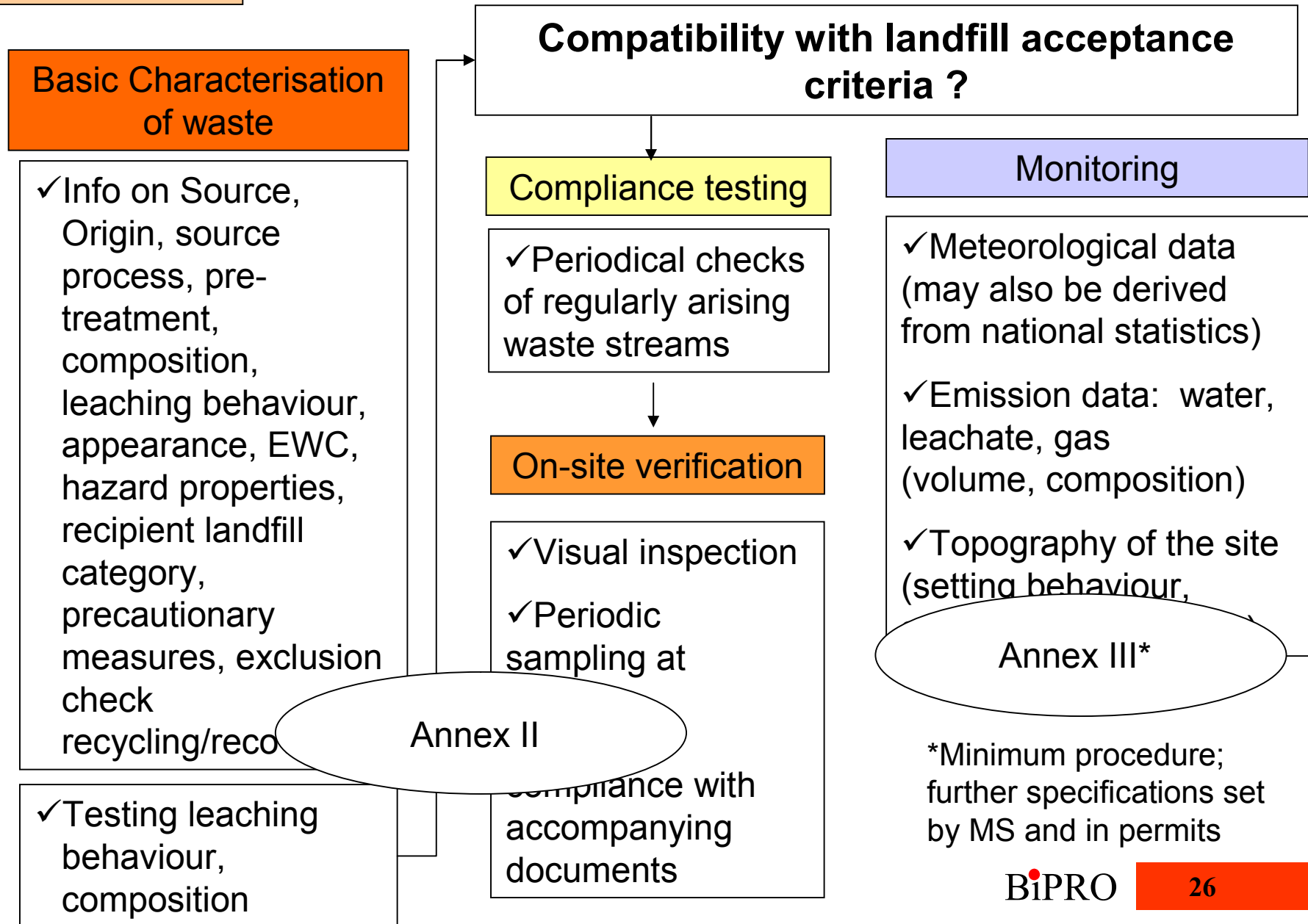
- Quantity
- Characteristics
- Origin (producer, collector)
- Location on site (for hazardous waste: precise location of the waste - mapping of landfill cells)

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)

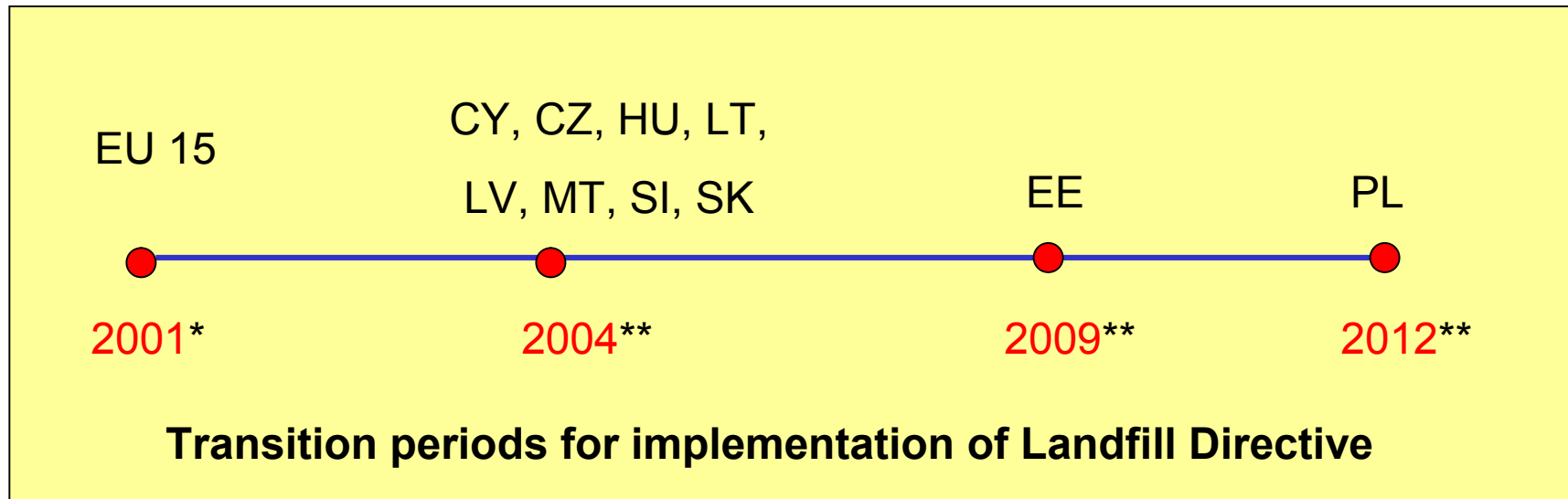
Notification of any significant adverse environmental effect revealed by control procedures

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