



CIRCULAR ECONOMY  
APPROACHES IN  
SOLID WASTE  
MANAGEMENT



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# CONSTRUCTION AND DEMOLITION WASTE – LANDFILLING

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# Landfilling – the last option for CDW treatment

## The waste management hierarchy:

- Waste prevention
- Preparation for reuse
- Recycling
- Other recovery procedures
- **Waste disposal - landfilling**



# The Landfill Directive(1999/31/EC)

## Objective of the Directive:

- to encourage MS for waste prevention, recycling and recovery,
- reducing the need for final waste disposal
- prevent or reduce the adverse effects of the landfilling of waste on the environment



# The Landfill Directive(1999/31/EC)

- Sets operational requirements for landfill sites, permitting , monitoring
- restrictions on type of waste that can be landfilled:
  - landfilling of **all waste suitable for recycling** or other recovery by **2030**
- Treating waste requirements before landfilling it
  - only waste that has been treated may be landfilled
- the price for disposing of waste should covers all the costs involved from opening to final closure of the site
- **GOAL:** municipal waste landfilled - **10% by 2035**

# The Landfill Directive (1999/31/EC)

Landfills are divided into:

- landfills for hazardous waste
- landfills for non-hazardous waste
- landfills for inert waste
  - CDW - composed mainly from inert waste

# Transposing Landfill Directive in Croatia

- Ordinance on methods and conditions of waste disposal, categories and working conditions for landfills (OG 114/15, 103/2018, 56/19)

Defines:

- categories of landfills,
- procedures and conditions for waste disposal

# Disposal bans

- Waste Act, Art 39 and Ordinance on waste disposal:

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

- liquid waste;
- flammable waste, explosive or oxidising waste;
- hospital and other clinical waste which is infectious;
- used tyres
- animal and slaughterhouse waste,
- waste batteries and accumulators,
- end-of-life vehicles waste
- WEEE
- all other types of waste that do not meet the criteria for acceptance of waste at landfills according to Annex III of the Ordinance

# Waste Management Act - disposal of waste

Art 39 - Prohibits disposal on landfills:

- **separately collected waste**
  - Exception: waste generated by treatment of separately collected waste if disposal gives the best outcome for the environment
- waste must undergo **pre-treatment of waste**, except:
  - inert waste treatment not technically feasible
  - such disposal would not be contrary to the goal of waste management
- **do not include ban on landfilling of recyclable waste, energy recoverable waste and inert waste**



# Ordinance on waste disposal: waste disposal costs

- The polluter pays principle
- includes **costs** (art 19):
  - design, construction and rehabilitation of landfills,
  - operational costs of the landfill,
  - special charges for environmental pollution by waste,
  - estimated costs of landfill closure, maintenance and post-closure monitoring for a period of at least 30 years
- Issuance of waste disposal permit - financial guarantee for insurance of waste disposal costs (Art 17)

# CDW Backfilling/landfilling distinction

**Backfilling (R5)** - recycling / reclamation of other waste inorganic materials (Waste Act Art 4, par 1)

- the waste is used instead of non-waste material
- In the amount necessary to achieve a purpose
- no permit required
- entry to Waste Recovery Register

➤ **Ordinance on waste management (OG 81/200)**

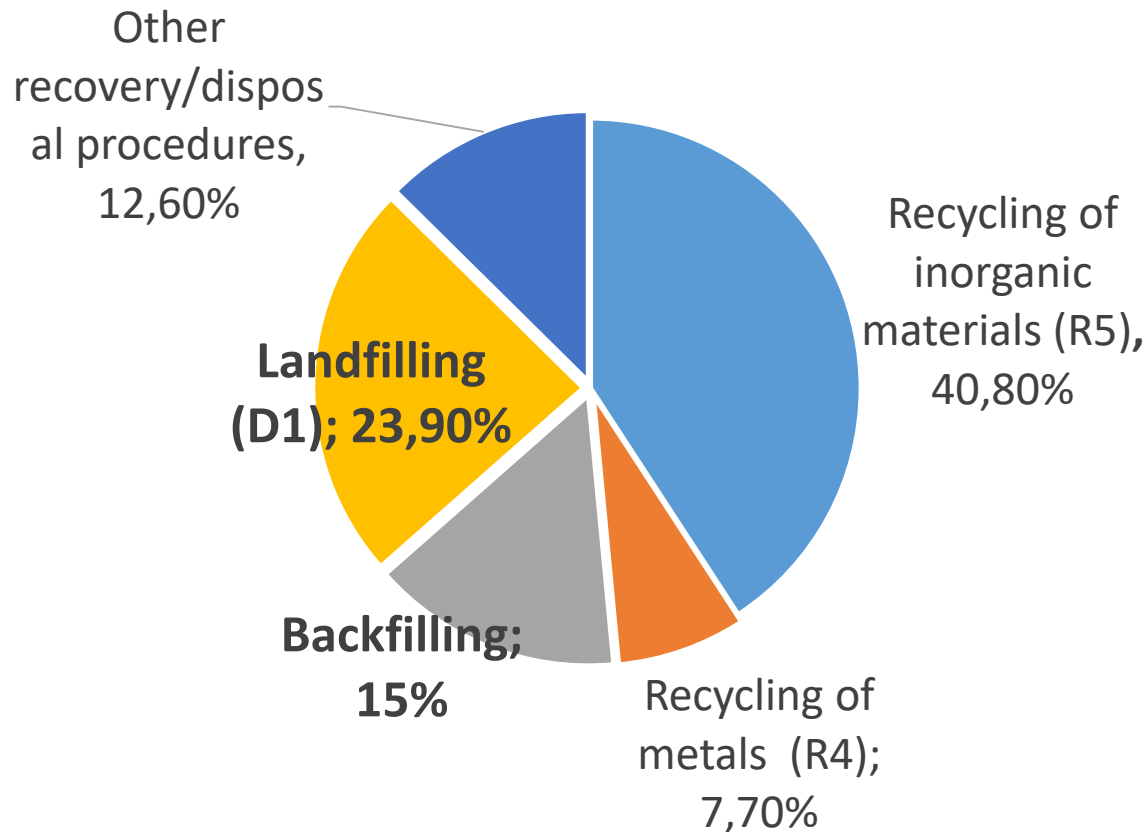
- If an unjustifiably large amount of waste is used, **the procedure is not considered recovery but waste disposal**

**Landfilling (D 1)** - disposal of waste in or on the ground

- all types of final disposal of waste at designated sites
- permits for waste disposal activities

# Construction waste treatment procedures (2020)

**CDW Landfilling in HR 24% - 273.581 tonnes (2020)**



# Landfill tax: instrument to restrict the landfilling



- **Landfilling tax - Art 100 Waste Management Act**
  - not implemented
  - Landfill operator pay the tax

**Thank you**

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