

Twinning Project

PHARE RO/06/IB/EN/06

Romania - North Eastern Region

# Progress in Dutch Waste Management: 1990-2005

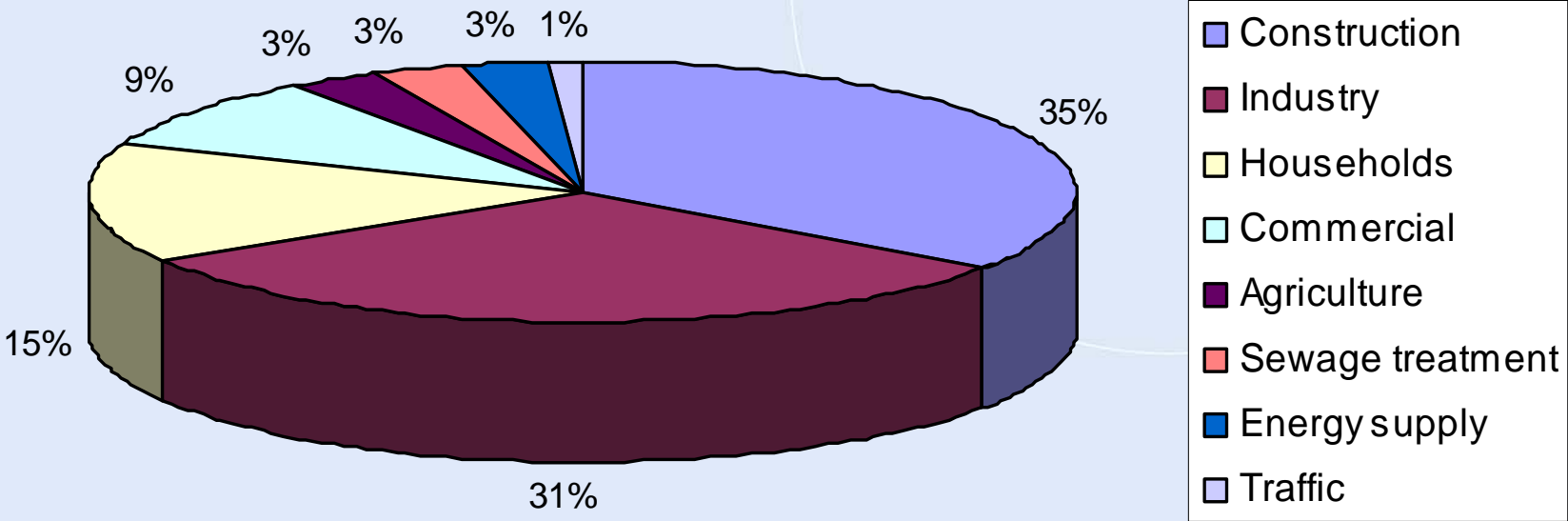
Waste Management Department, SenterNovem  
The Netherlands

# Outline

- A short history of waste management: what has been reached in 25 years
- Instruments, policies
- Scaling up from municipal to international scale
- Concluding remarks

# Waste production divided by sectors

Total waste production 58 Mton (58.000.000.000 kg) in 2002



## Most important types of waste and their recycling (in 2003)

Type of waste	Volume (Mton/year)	Percentage of total	Recycling percentage
1. Construction wastes	21.7	35%	94%
2. Industrial wastes	19.8	32%	85%
3. Municipal wastes	8.9	15%	46%

# History of Dutch waste management


- Until end of 80's municipalities were in charge of waste management;
- Every municipality had an own landfill
- Due to the relatively small scale of landfills and consequent high operational costs municipalities were seeking cooperation
- Establishment of bigger landfills and some incinerators

## Public concern at the end of the 80's

- Rapidly growing waste volumes
- 157 landfills, many not well equipped; capacity sufficient for only 4 years ahead
- Very serious groundwater pollution at a number of landfills
- Insufficient incineration capacity: 5 incinerators closed because of dioxin emissions

## Effects of organisational problems

- Not enough waste processing capacity
- Lack of cooperation between the three layers of government
- Lack of data on waste
- A small-scaled, inefficient waste sector



At the end of the 80's waste management  
becomes top priority

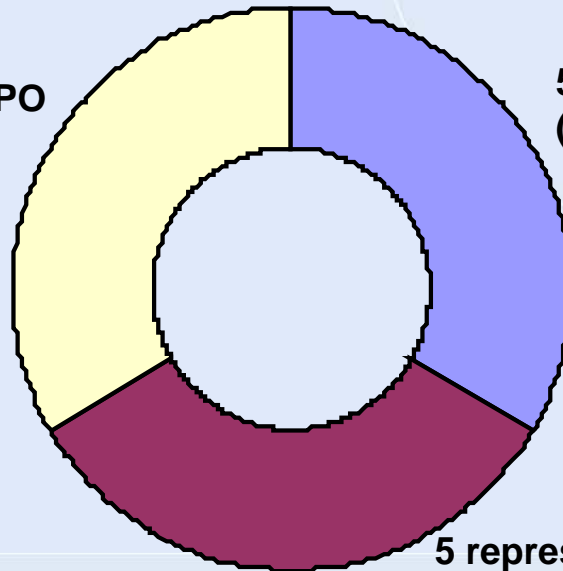
## Re-organisation of responsibilities

- The provinces became responsible for planning, licensing, control, enforcement;
- Municipalities remained responsible for implementation and collection of household waste
- Up-scaling of waste processing: government owned companies started to work on composting, incineration, etc.
- Waste should stay within provincial borders

## Establishment of waste management council in 1990

- To organise and improve the co-operation agreement between the three layers of government
- Advisory members from environmental organisations, consumers organisations and industry

**5 representatives from IPO  
(provincial association)**



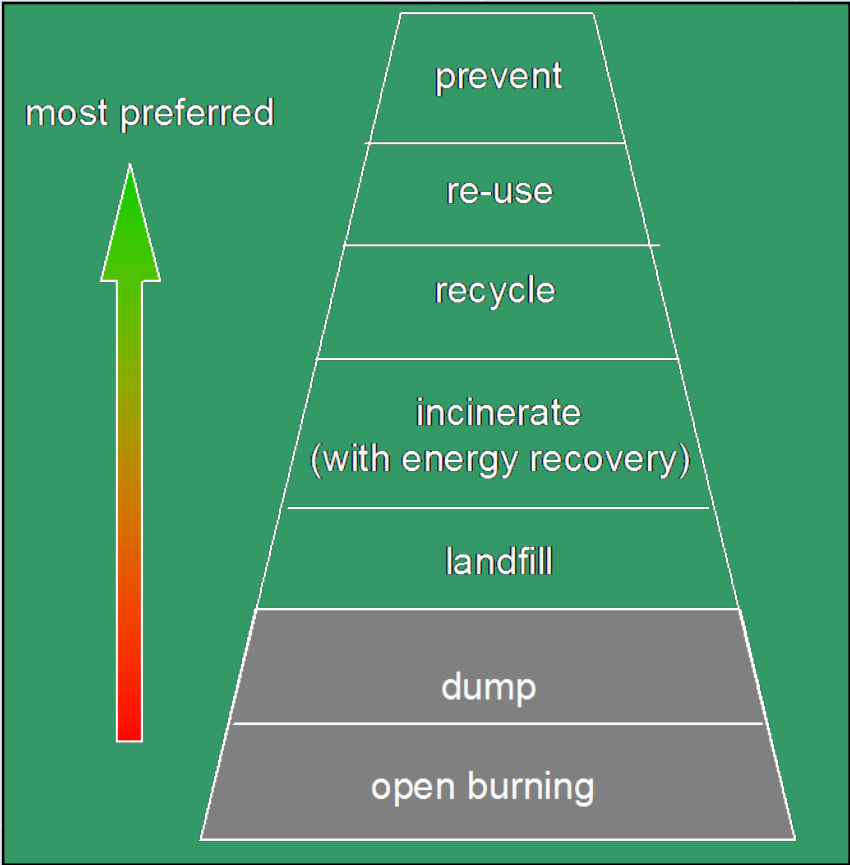
**5 representatives from VNG  
(municipal association)**

**5 representatives from  
Ministry of Environment**

# Important tasks of Waste Management Council

- Drawing up 4-year national waste management plans and special programs on separate collection of wastes
- Consultation of provincial waste management plans
- Monitoring and evaluation progress in waste management

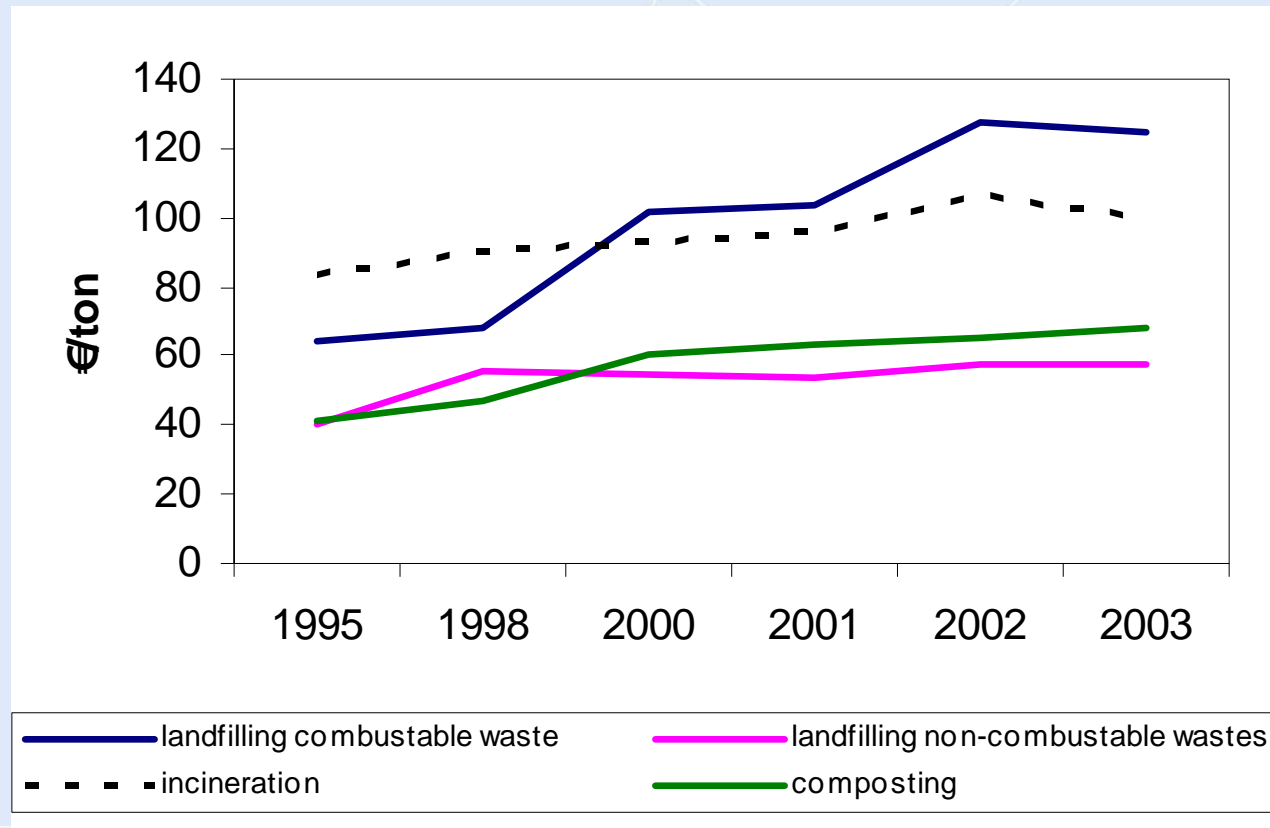
# Introduce waste hierarchy



## Policy to discourage landfilling and improve safety

- Landfill decree: technical requirements and standards; financial covering of post-closure costs
- Landfill ban: no dumping for 32 types of wastes
- Landfill tax: extra tax for combustible waste (now approx. 85 euro per ton)
- Reorganisation of the landfill sector: only landfills that could cope with high standards and were financially viable continued operation

# Development tariffs waste processing

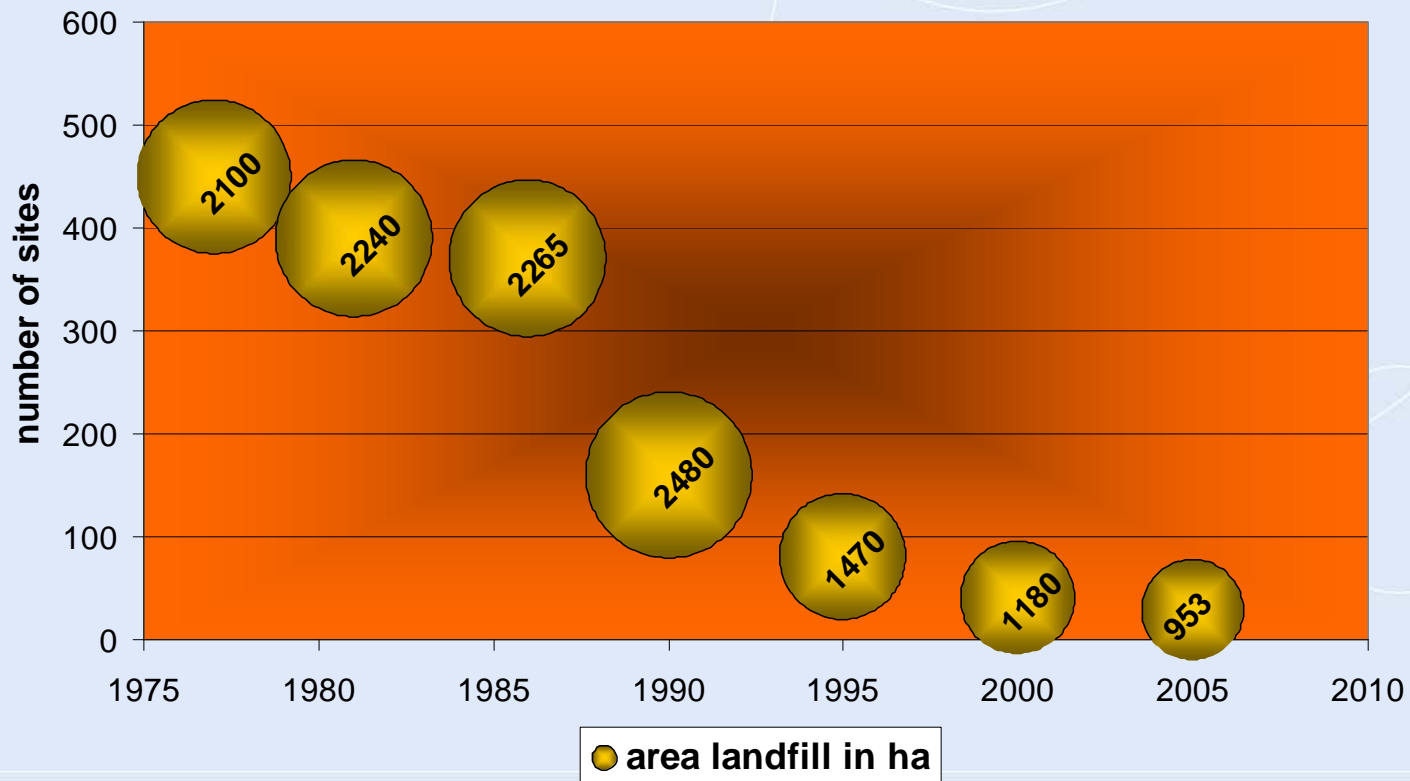


## Policy to encourage prevention, reuse and recycling

- Companies are obliged to separate wastes as much as reasonably possible (part of their permit)
- Municipalities received task levels for household separation
- Voluntary agreement with industry on reducing packages
- Introduction of the principle that producers are responsible for the waste of their products

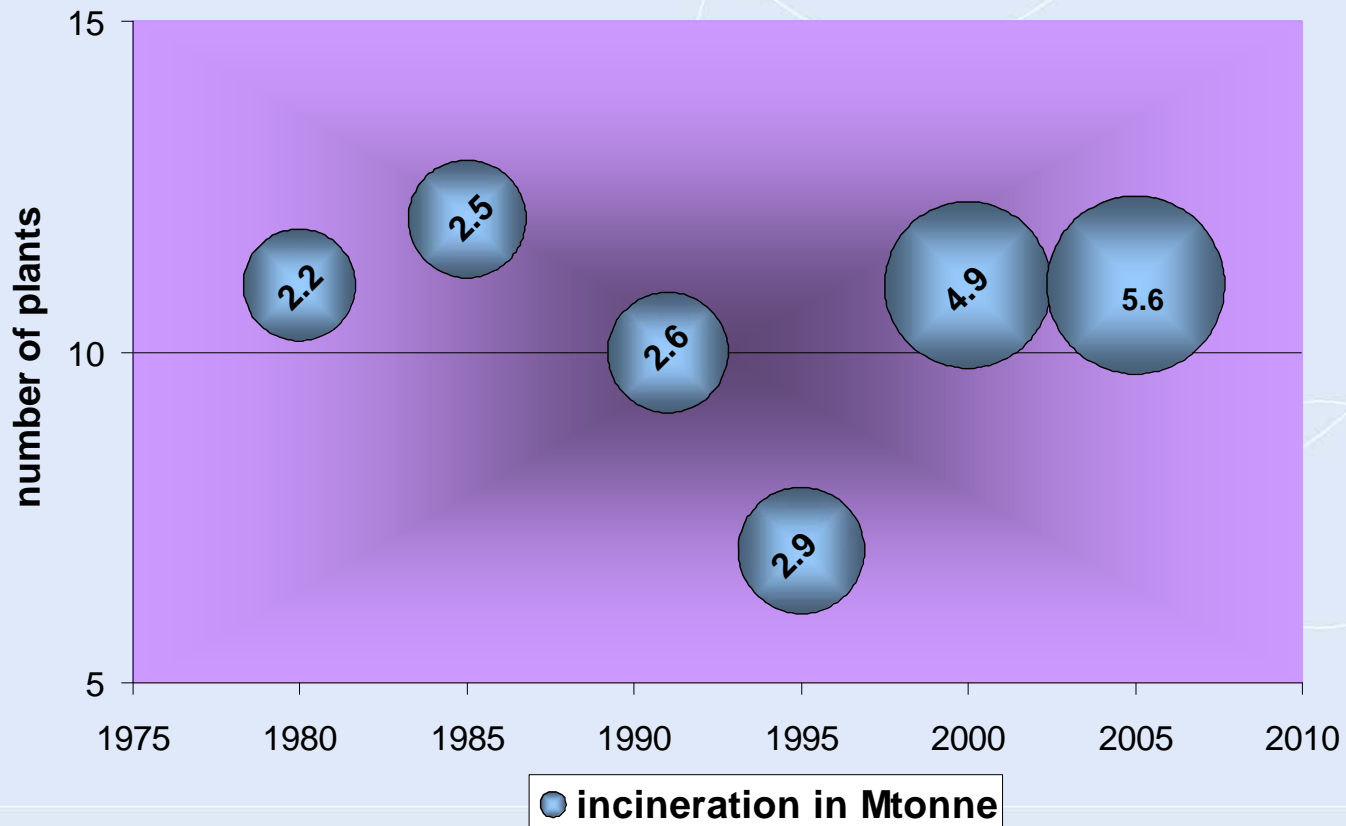
# Results

## Declining numbers and area of landfill



# Results

## Growing numbers and capacity of incineration



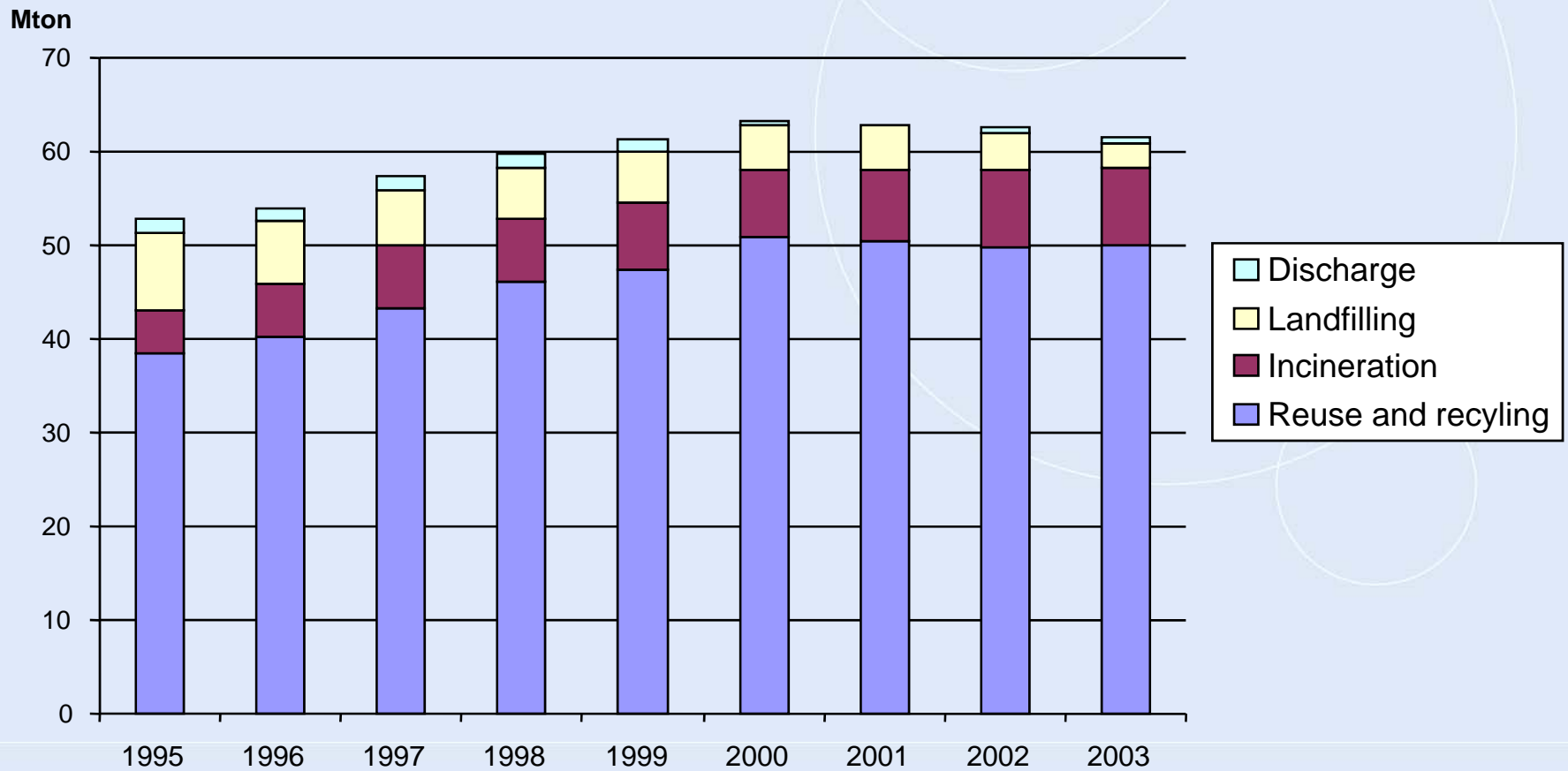
## Development of a professional waste market - 1

- It was cheaper to find recycle options than to go to landfill
- Various types of waste turned out to be very interesting resources: construction wastes, metals, paper/cardboard, etc.
- Private waste collectors started to separate wastes and make products of the constituents

## Development of a professional waste market - 2

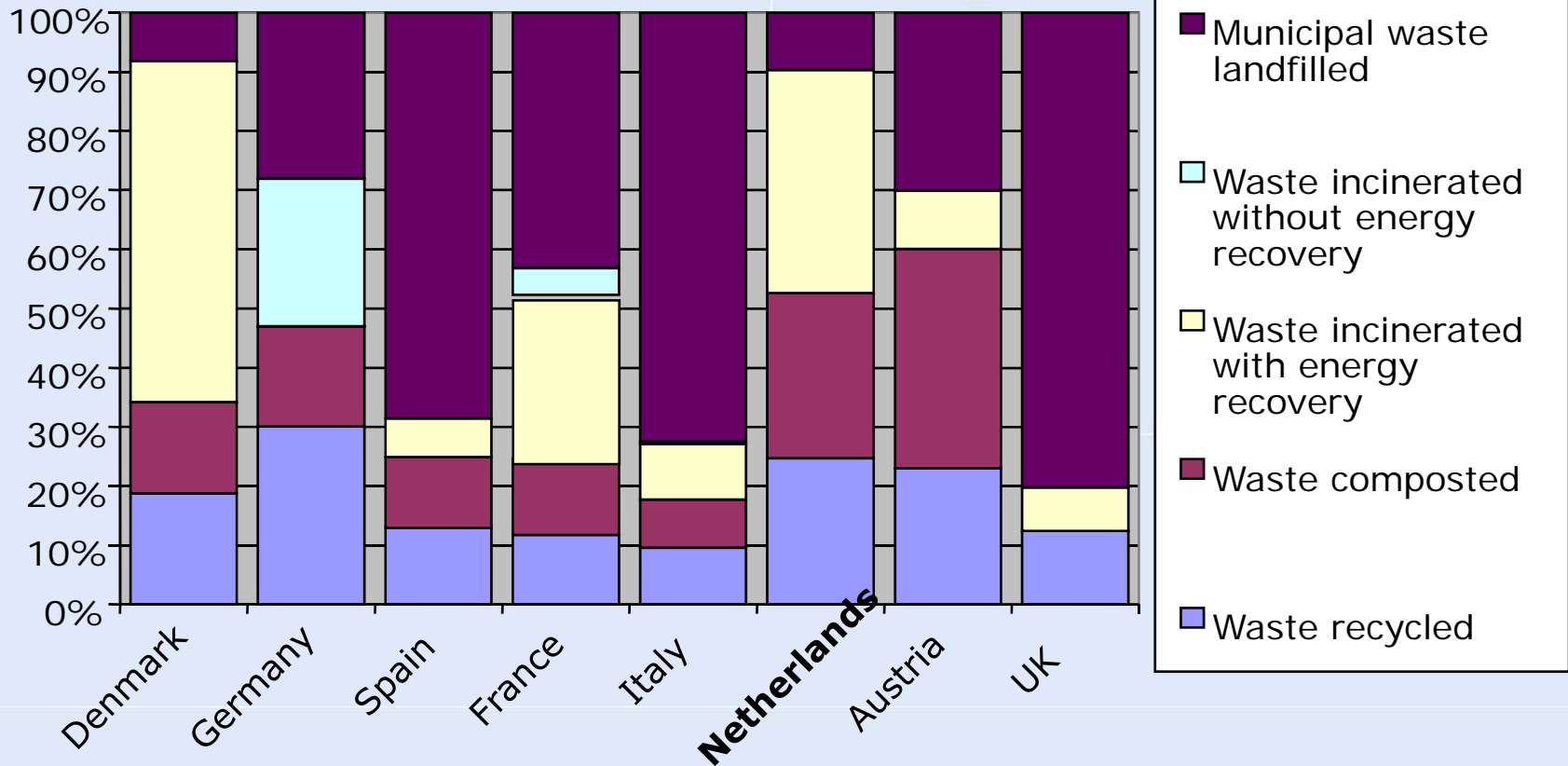
- E.g. construction wastes are separated by special companies: wood, inorganics (bricks, etc.) metals, directly reusable materials
- Wood is reused or combusted.
- Inorganics are grinded and used in concrete, as road filling material, etc.
- Metals are sold to metal industry.

# Development of waste processing

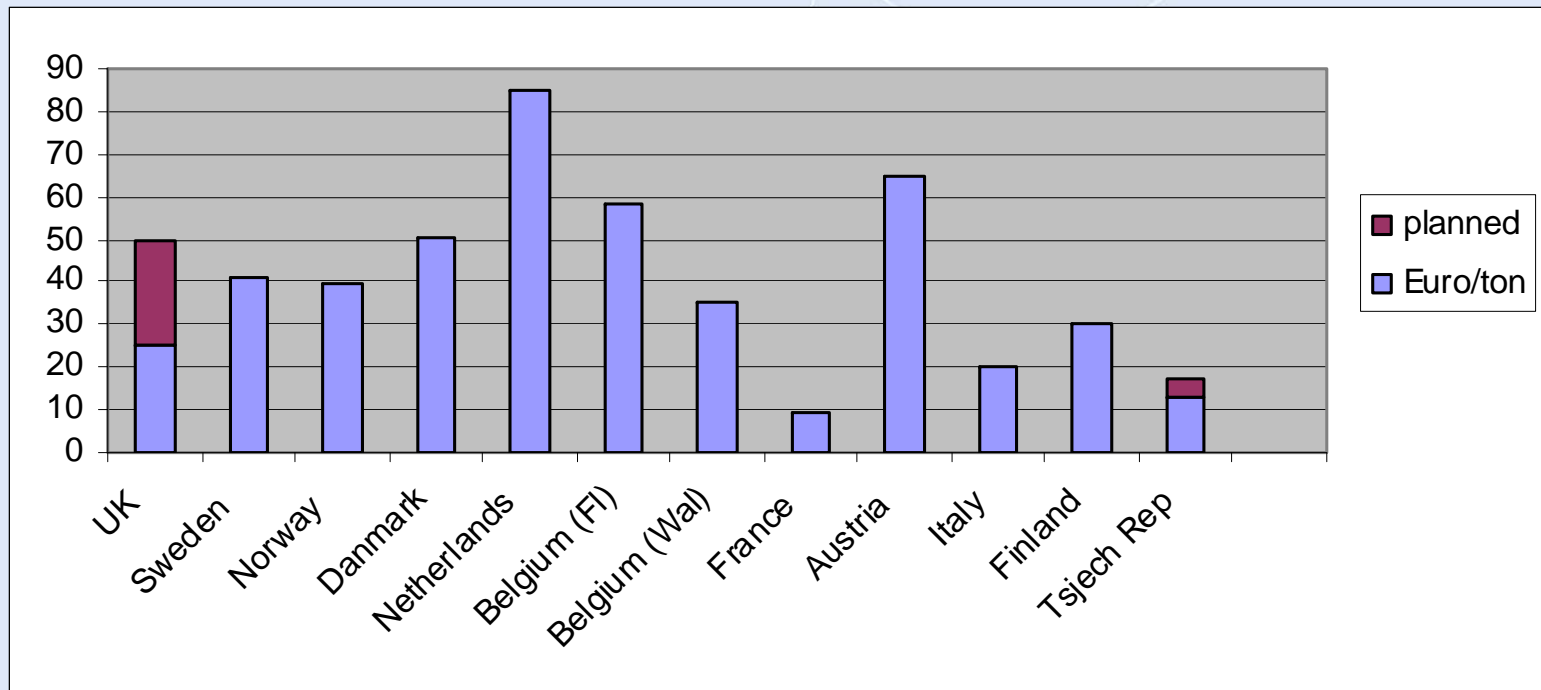


# Waste management in EU perspective

Treatment of municipal solid waste (%)



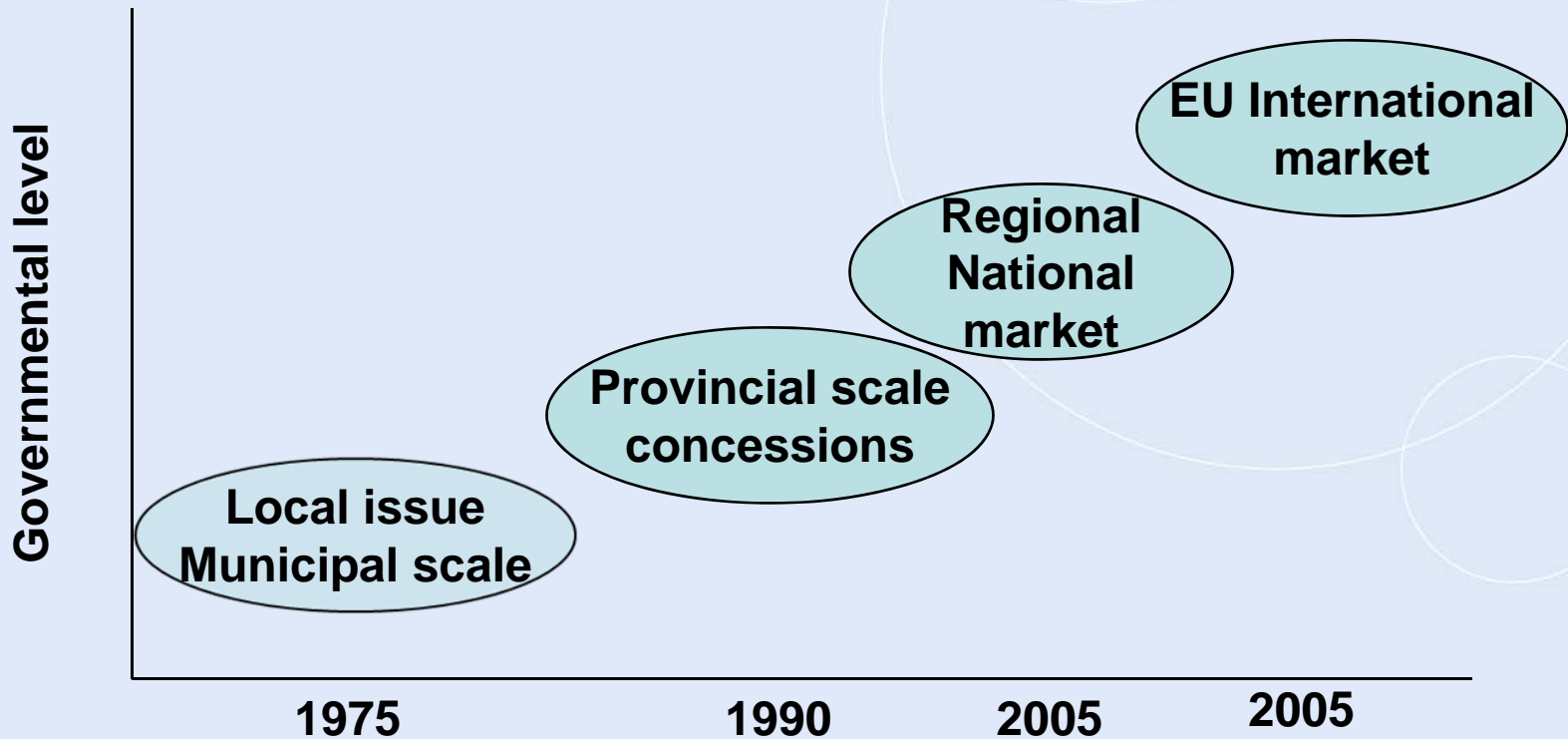
## Landfill tax in 12 EU countries (in €/ton)



## Up-scaling to national level in the 90's

- Market players are increasing in size due to economies of scale
- Provincial borders become very impractical
- 2000 Revision of the Waste management act: opening of the provincial borders, planning moves to national level
- 2003 First National Waste management plan in force (4-year plans with 10 year outlook)

# Responsibilities for planning and setting the rules



## Governmental responsibilities 2003

National level	Planning Setting the rules
Provinces	Company wastes: licensing, control, enforcement;
Municipalities	Household wastes: Collect, control, and enforce separation

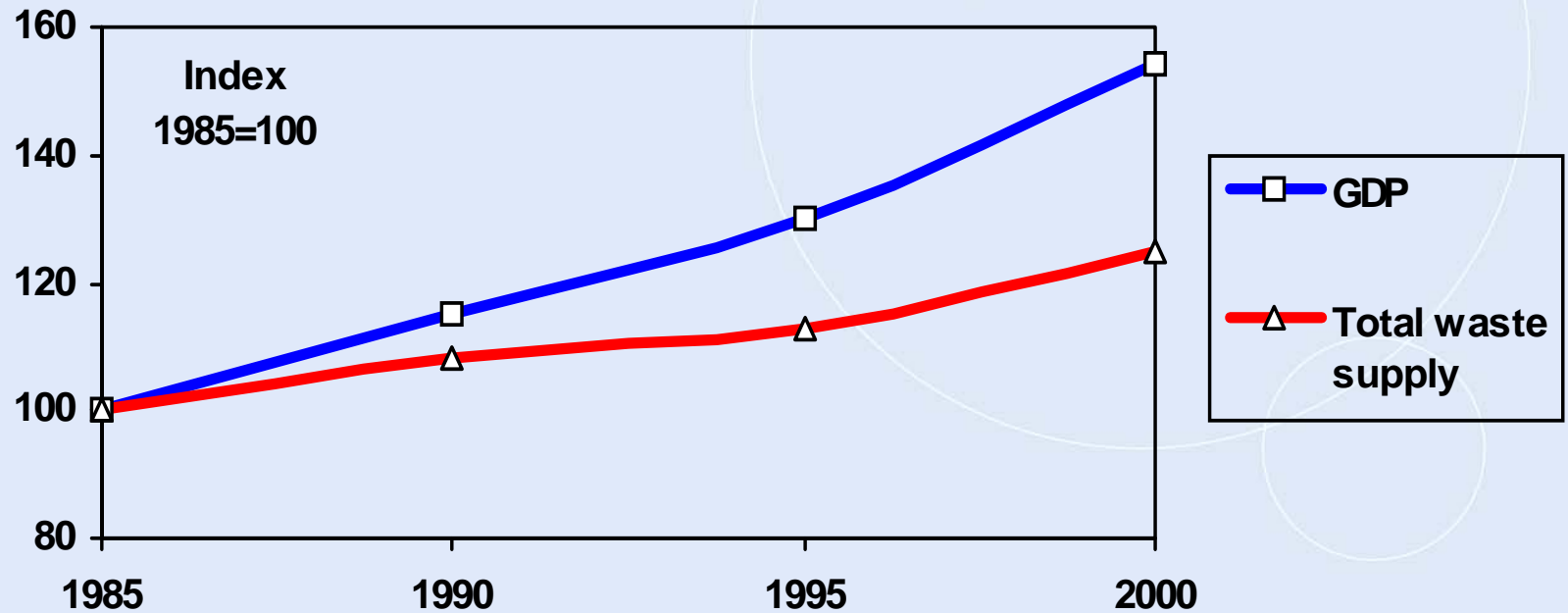
## What did we do to get there ?

- Co-operation between the three levels of government (Waste management Council)
- Stringent environmental standards for disposal and recovery
- Environmental taxes: tariffs in accordance with waste hierarchy
- Adequate monitoring and enforcement
- Minimum standards for permit procedures
- Producers responsibility

## Situation in 2003 - 1

- Decoupling of growth waste volume and GDP
- Total recovery rate: >80%
- Separate collection of household waste: 47%
- Efficient and professional waste sector, economy of scale, reasonable costs for high performance
- Provincial borders no longer existent; only borders with EU-member states for disposal

# Decoupling of growth waste volume and GDP



## Situation 2003 - 2

- Good functioning monitoring system en structures
- All landfills meet high standards (methane extraction, post closure funds)
- Landfill capacity sufficient for 20 years ahead, moratorium on expanding capacity. Number of landfills only 30
- Incineration capacity insufficient: several initiatives for expanding capacity to 6 Mton/year

## Goals Waste Management Plan 2003

- Decoupling between GDP and waste quantity
- Waste recycling and recovery (from 77 % in 2000 to 83% in 2012)
- Optimize energy recovery from non-re-useable recyclable waste
- Limit quantity of waste to be disposed in 2012 of 9.5 Mton
- Achieving Level Playing Field in EU (open borders for incineration), promoting market forces, encouraging innovation

## Lessons learnt

- Initially waste was mainly a governmental issue
- By putting increasing costs for landfilling a market was created
- The level of governmental planning had to be alleviated to create economic scale of operation for companies to work efficient
- The Dutch perception of waste has changed from seeing it as a nuisance to waste as a secondary resource



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For PHARE projects information and comments: [cfcu.phare@mfinante.ro](mailto:cfcu.phare@mfinante.ro)