Sustainable Waste Management

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Rotterdam, 24 October 2012

Who are we?

Dutch Waste Management Association

www.wastematters.eu

Activities:

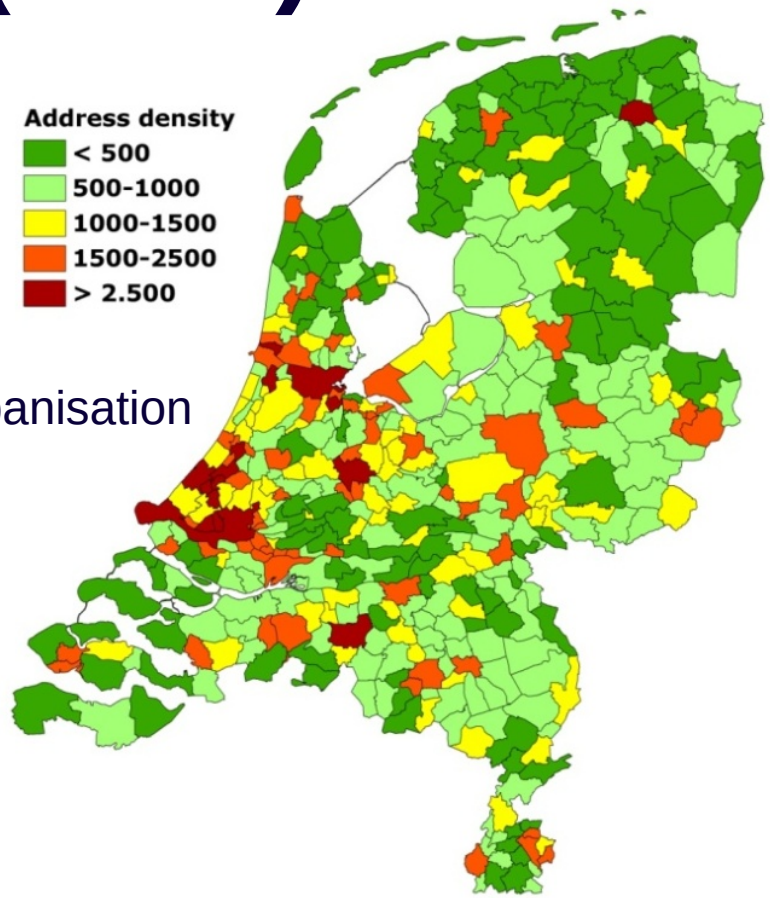
- Recycling & Collection
- Hazardous & Oil-Containing Wastes
- Bioconversion
- Waste to Energy
- Landfilling
- Sewer maintenance

DWMA:

- Focus on raw materials and energy
- Focus on sustainability of waste treatment (LCA, CO_2, CBS)
- 6 billion euros turnover and 30,000 employees
- DWMA represents approx. 65% of waste volumes and market share

Facts about the Netherlands (2012)

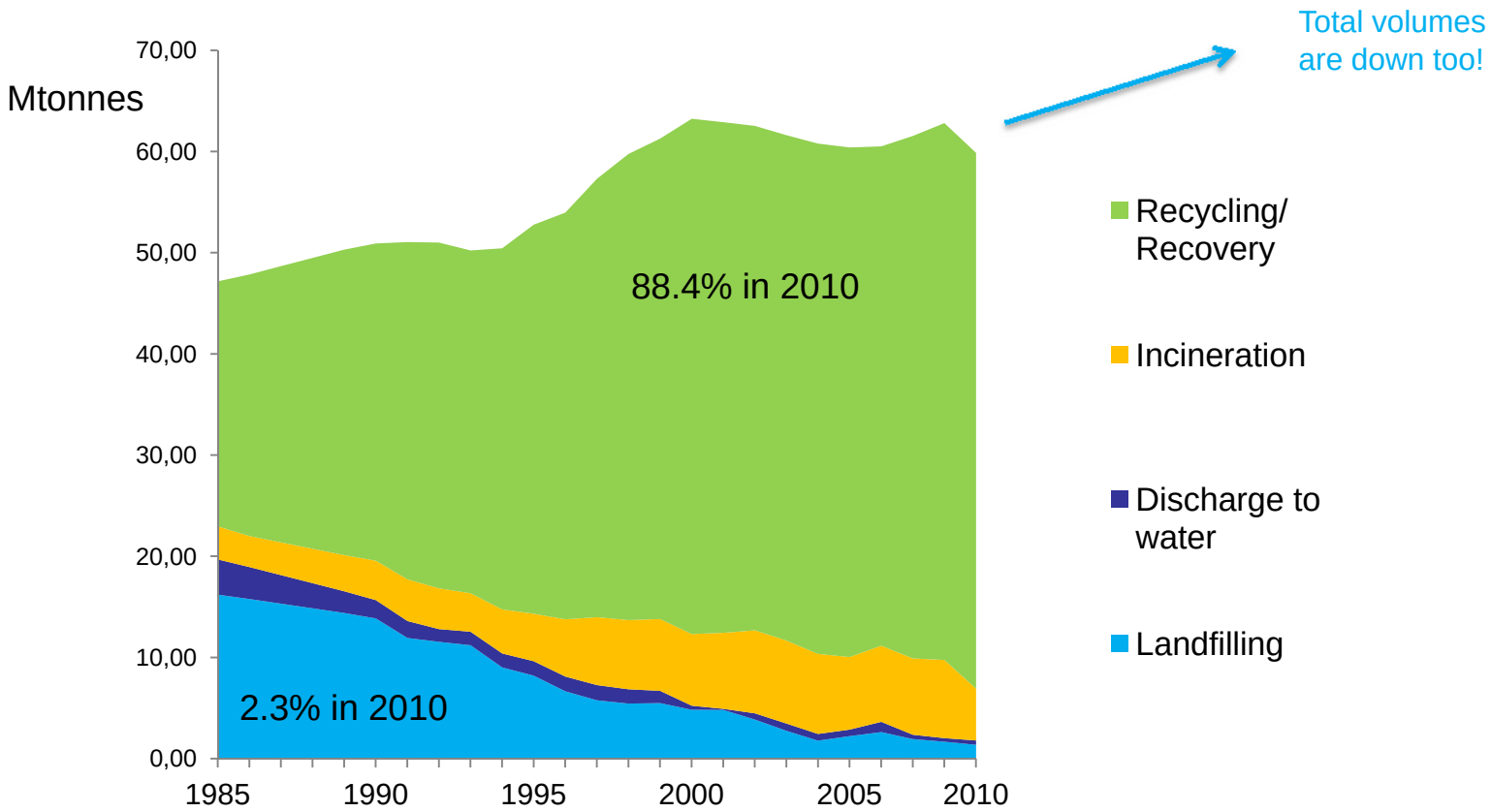
- Inhabitants: 16.73 million
- Area: 41,528 km^2
- 12 provinces
- 415 municipalities
- Differentiation in 5 levels of urbanisation



Urbanisation level	Population density
1	>1500
2	1100-1500
3	700-1100
4	350-700
5	<350

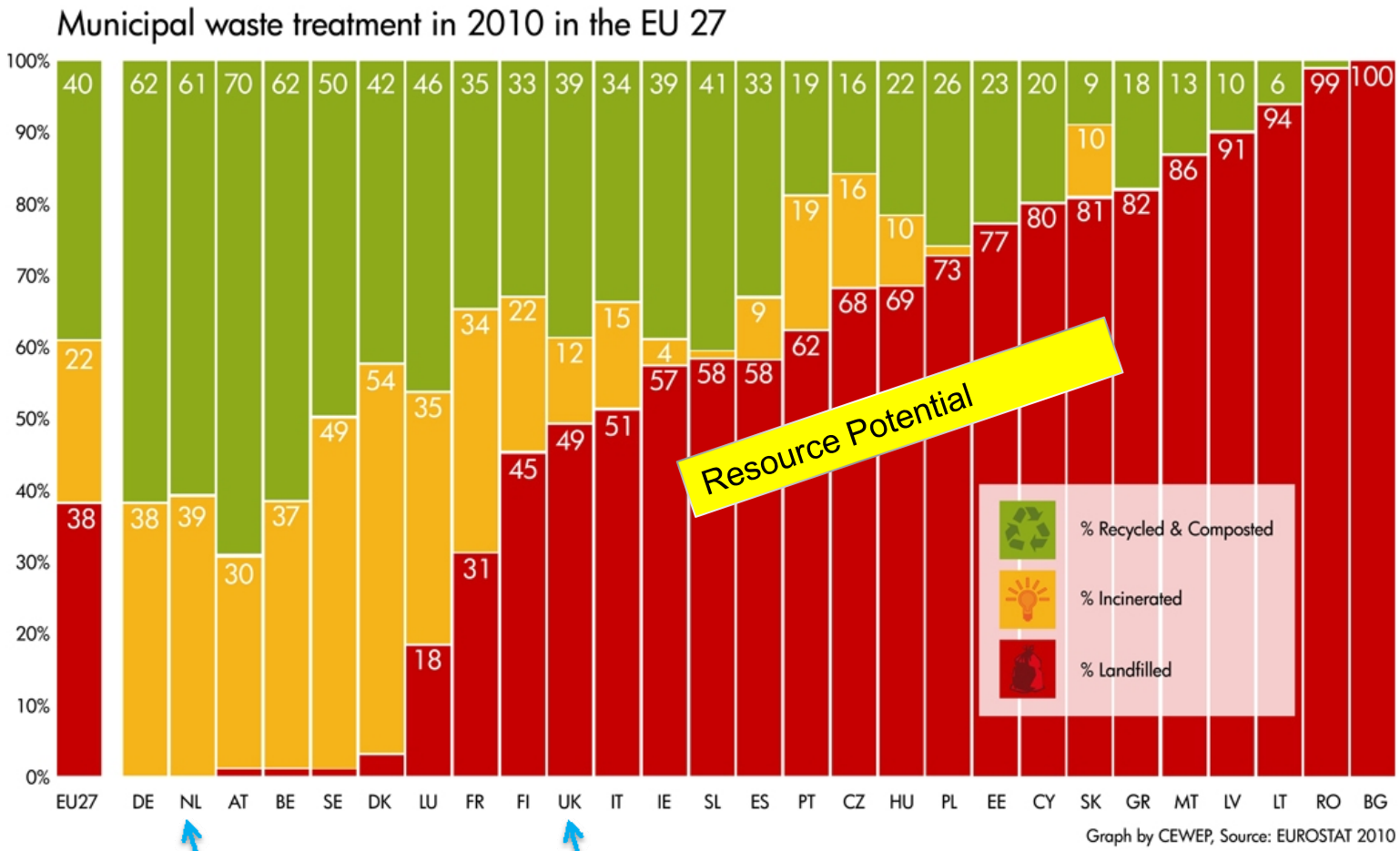
Where are we?

Waste produced and treated in NL



And Europe?

Treatment of MSW in the EU 27 in 2010

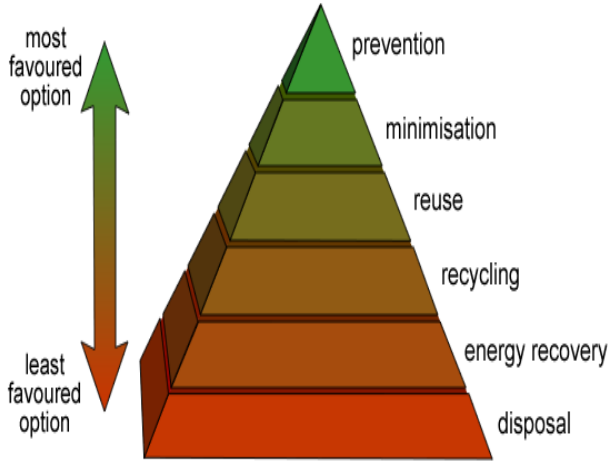


Working together

Critical success factors

Content:

- Waste hierarchy
- Producer responsibility
- Minimum standards
- Landfill tax
- Separate collection of waste streams



System:

- Adequate planning system
- Cooperation between government authorities
- Involvement of waste processing industry
- Consensus on data
- Monitoring system

Waste management responsibilities

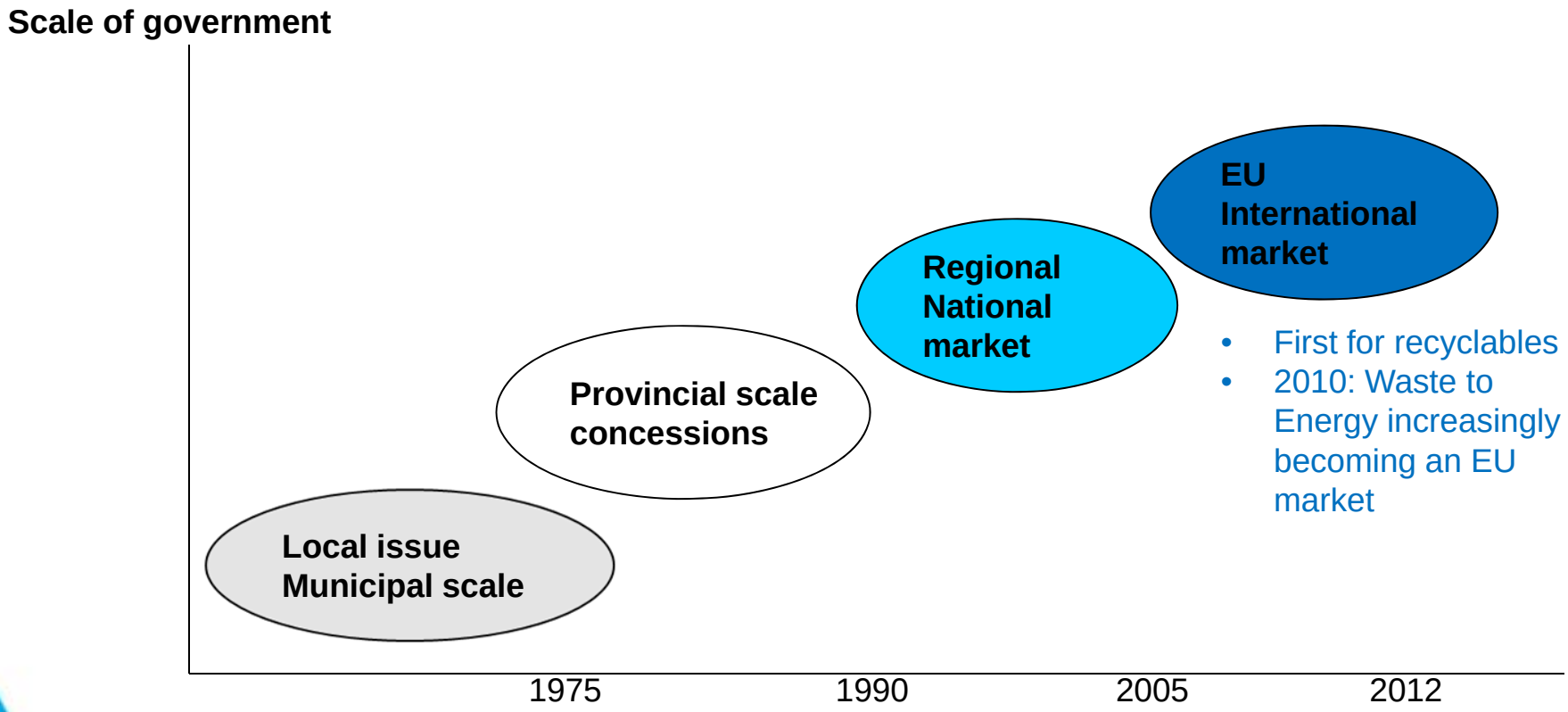
- Municipalities have a duty of care for household waste:
  - Weekly door-to-door collection of municipal waste (by public or private companies) and financing from a municipal waste tax
  - Offer facilities for collection and delivery of bulky domestic waste
- Provinces:
  - Licensing facilities and enforcement, physical planning
- National government
  - Legislation, EU Waste Shipment Regulation, Enforcement, National Waste Management Plan
  - Supervision of the municipalities and provinces
- Waste management agency (Agency NL):
  - Implementation, administration, monitoring

Change in approach

From waste processing to prevention and recycling

The concept of the circular economy

Stages in waste management and scale of government



- First for recyclables
- 2010: Waste to Energy increasingly becoming an EU market

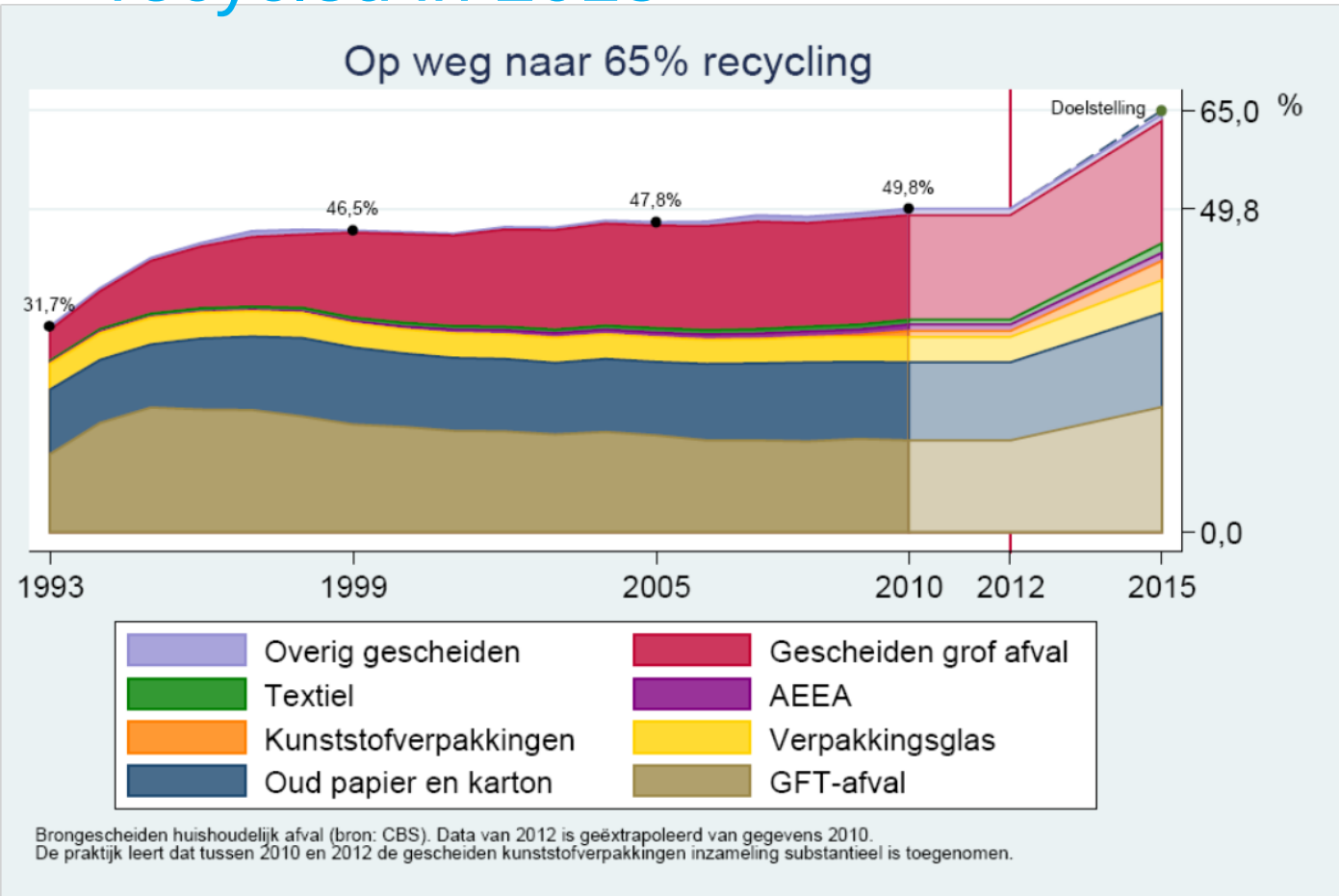
Change in perspective

Environmental service provider AND resource provider

- New Dutch recycling targets means less residual waste
  - From 80% to 83% overall recycling
  - MSW 65% recycling
  - Further gradual reduction in landfill and Waste-to-Energy incineration
- Cooperation in the value chain
  - With municipalities for source separation
  - With producers and resource providers
- International resource orientation for input and output
- New territories
  - Involvement in Ecodesign, Ecolabelling
  - Footprinting and Life Cycle Thinking
  - GPP: tenders with sustainability criteria

Dutch waste policy has recycling ambition

65% of MSW will have to be material recycled in 2015



Guiding principle for DWMA

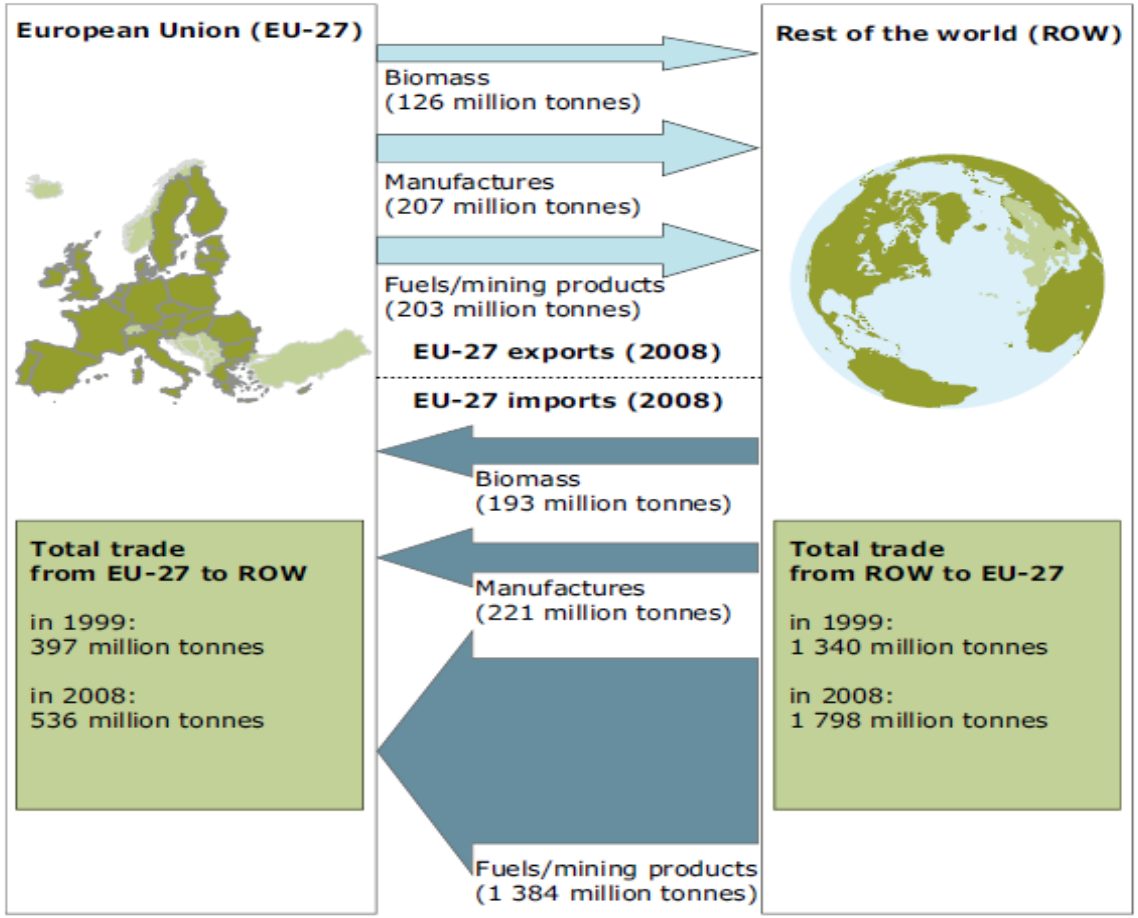
Resource focus

- Worldwide economic growth will result in increasing scarcity of primary resources in Europe
- Resulting in more chances for material recycling (and energy recovery)

Realism

- However: both incineration with energy recovery and landfilling remain essential elements of the waste structure, because some wastes cannot (technically) be recycled or even incinerated

Guiding principle for DWMA



Source: EEA, ETC Sustainable Consumption and Production (based on Eurostat).

Towards open borders for incineration? (1)

UK

- Short-term focus: compliance with EU waste legislation (incl. Landfill Directive)
- Insufficient alternative treatment capacity on the market
  - Financing, planning, construction and acceptance will all take time
  - Landfill tax makes export an economically attractive alternative

NL

- Enabling capacity for treatment of residual waste
- RI WtE installations are state-of-the-art in Europe

Towards open borders for incineration? (2)

Importing combustible waste

- Positive footprint
  - Pre-treatment in UK, shipping and incineration in NL is environmentally better than landfilling in the UK
  - Landfill diversion in the UK
  - Renewable energy, avoided GHG in the NL
- Makes economic sense
  - Economic and environmental alternative to the landfill tax
  - Keeps WtE capacity in NL operational

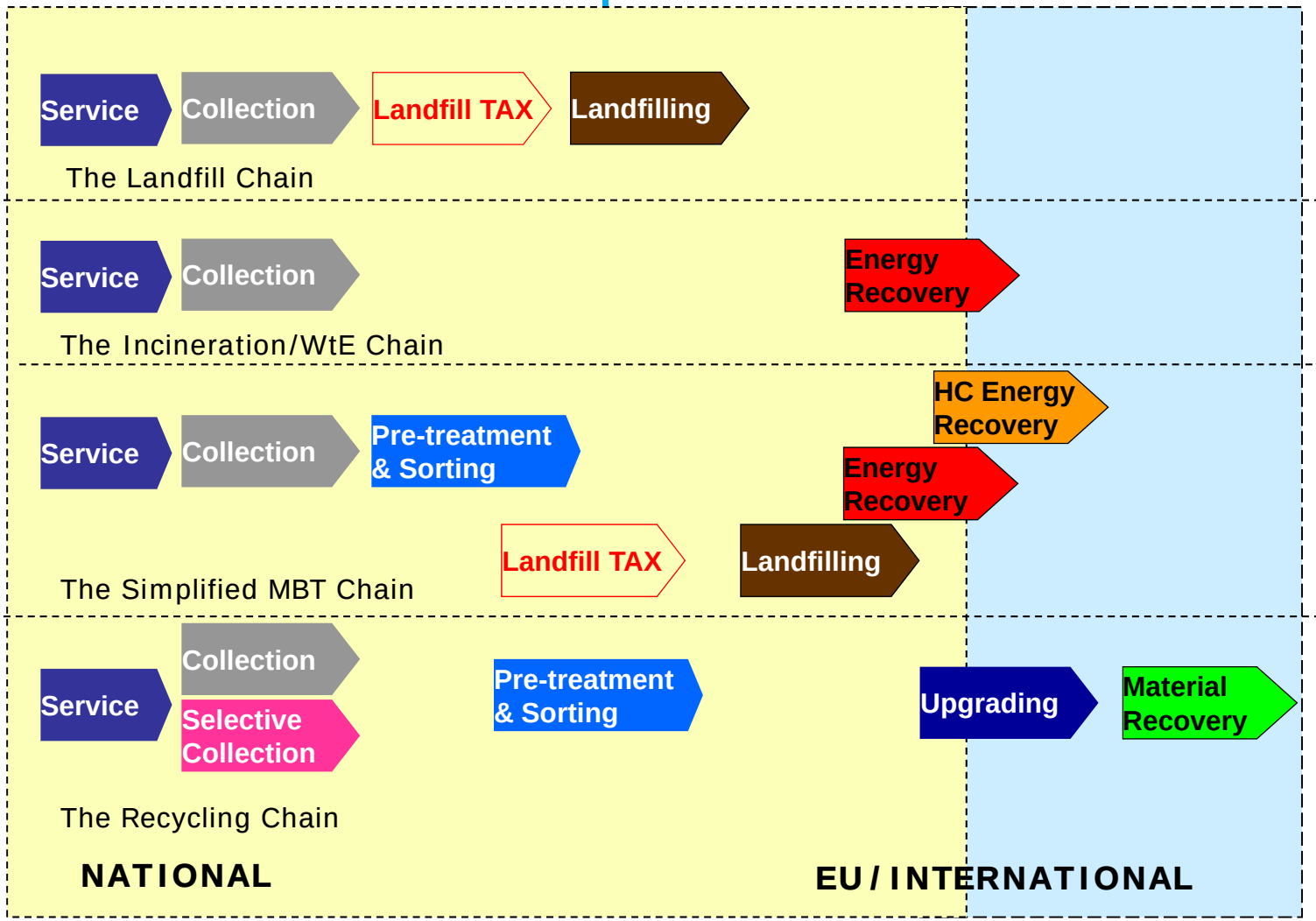
Towards open borders for incineration? (3)

EU market trend

- Cross-border cooperation between NL, DE, UK, IT, IR and BE is already taking place
  - EU market development trend
  - NL as a structural outlet for the UK
  - UK can focus predominantly on recyclables
- Strict monitoring as a precondition
- Effective and efficient procedures

The Recycling Value Chain in perspective

International cooperation is a must



Conclusions

- Traditional
  - Dutch companies can help the UK with traditional waste management: accelerated learning curve
- Strategic
  - Resources are of strategic importance and recycling is key
  - Recycling depends on local input markets (example: source separation) and international output markets (quality standards)
  - UK and NL can be fast movers together in an international playing field
  - NL can be a structural WtE outlet for the UK

Cooperation between UK and NL is already taking place

Recycling companies (e.g.):

Sewer companies:

Cooperation between UK and NL is already taking place

Waste import and treatment:

van Gansewinkel Groep

Van Gansewinkel ■ Coolrec ■ Maltha ■ Minerals ■ AVR

suez environnement SITA

E.ON Energy from Waste

HVC

Gemeente Amsterdam
Afval Energie Bedrijf

attero
energiek met milieu

Cooperation between UK and NL is already taking place

Dutch consultancy groups (e.g.):

Thank you for your attention

More information:

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www.wastematters.eu