ETC RWM
European Topic Centre on Resource and Waste Management

# Better waste management to reduce greenhouse gas emissions


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Resource and Waste Management


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Under contract with the European Environment Agency

# Findings

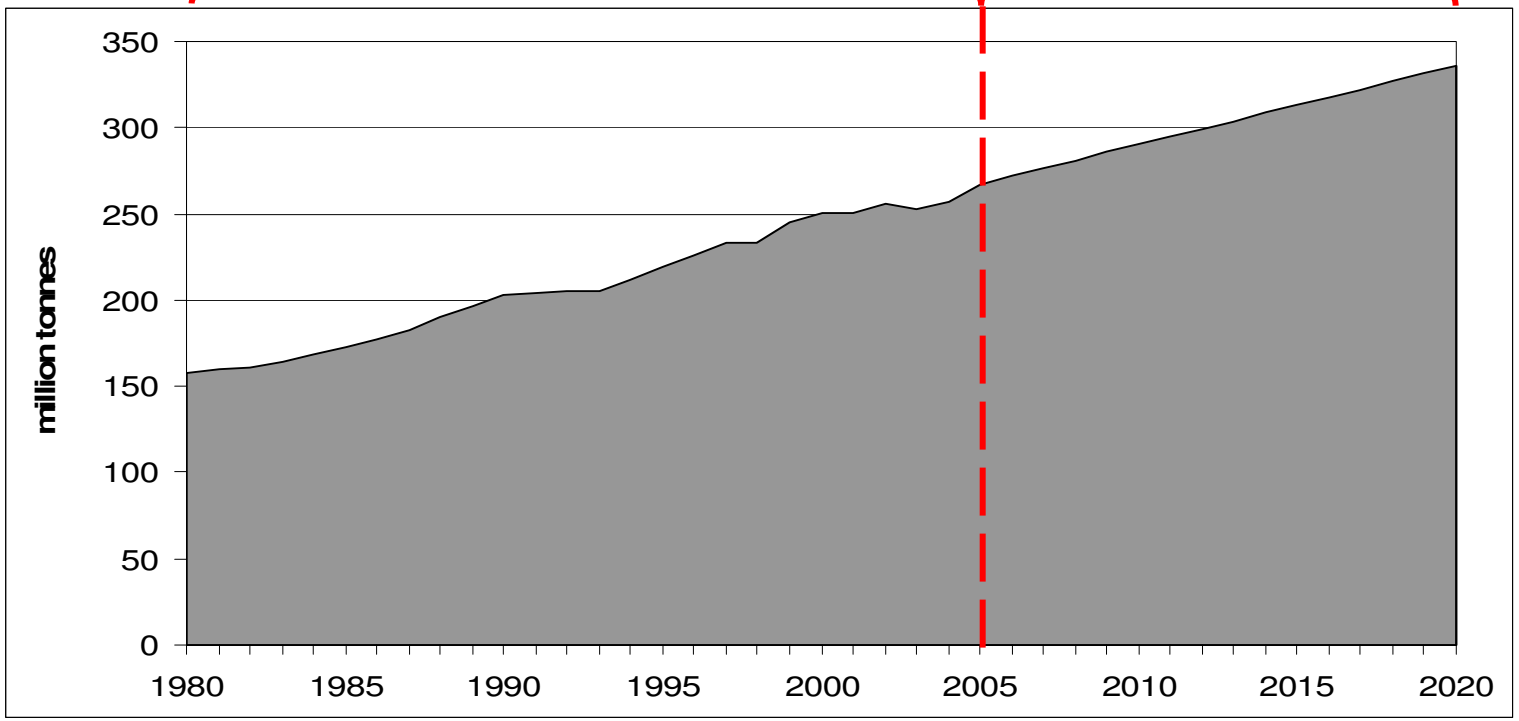
## Outlook for the EU, 2005-2020:

- Municipal waste growth: 25%
- Increased recovery of waste
- Reduction in net greenhouse gas emissions
- Further effort on waste prevention if further reduction of greenhouse gas emissions

# Projection of municipal waste

Key explanatory variables:
- Private final consumption
- Population

Projection of explanatory variables based on scenario for the European Commission



# Key assumptions for the projection

Average, annual growth rates, 2005-2020

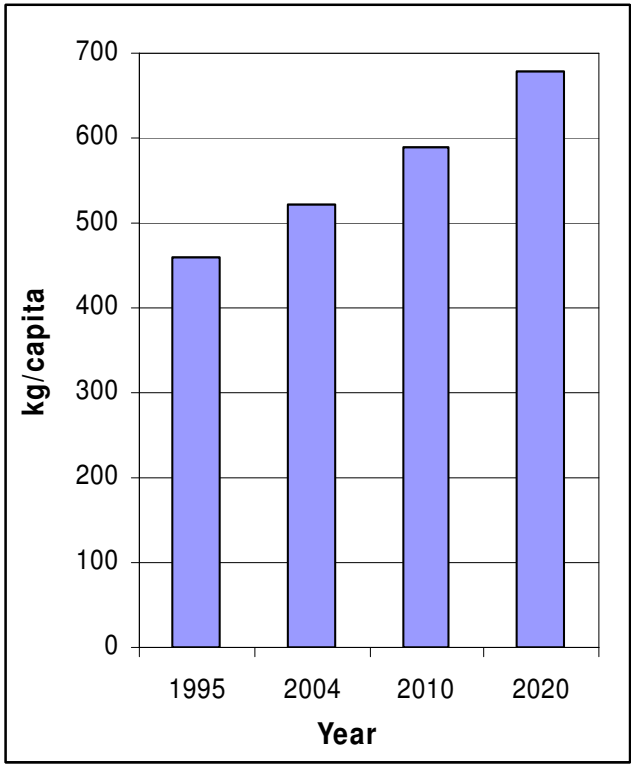
| | EU-15 | New EU-12 |
|---|---|---|
| Private household consumption | 2.0 % p.a. | 4.1 % p.a. |
| Population | 0.1% p.a. | -0.2% p.a. |

# Municipal waste generation

EU in 2020:

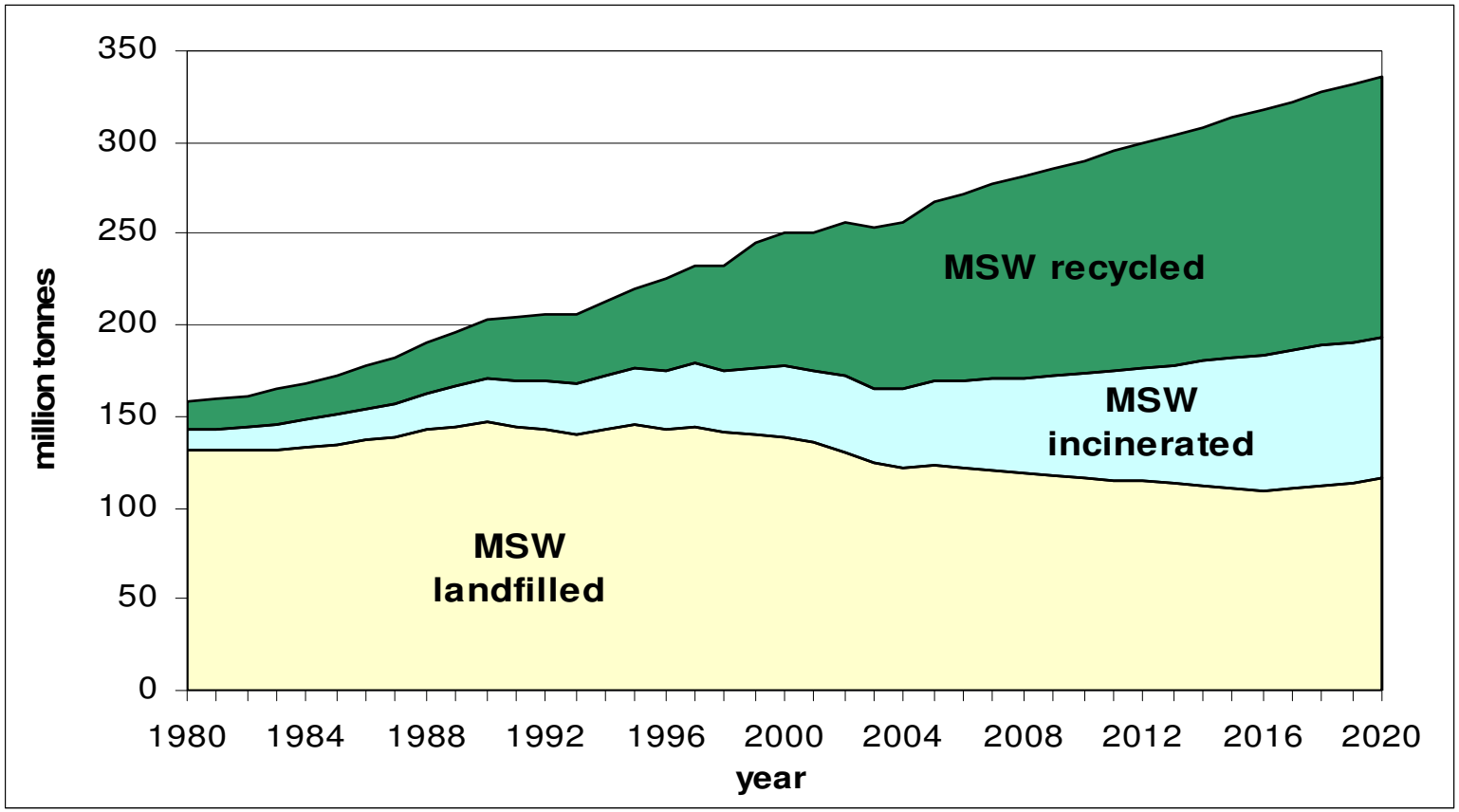
- Around 335 million tonnes
- 680 kg/capita
- 25% growth

Differences between Member States



# Management of municipal waste

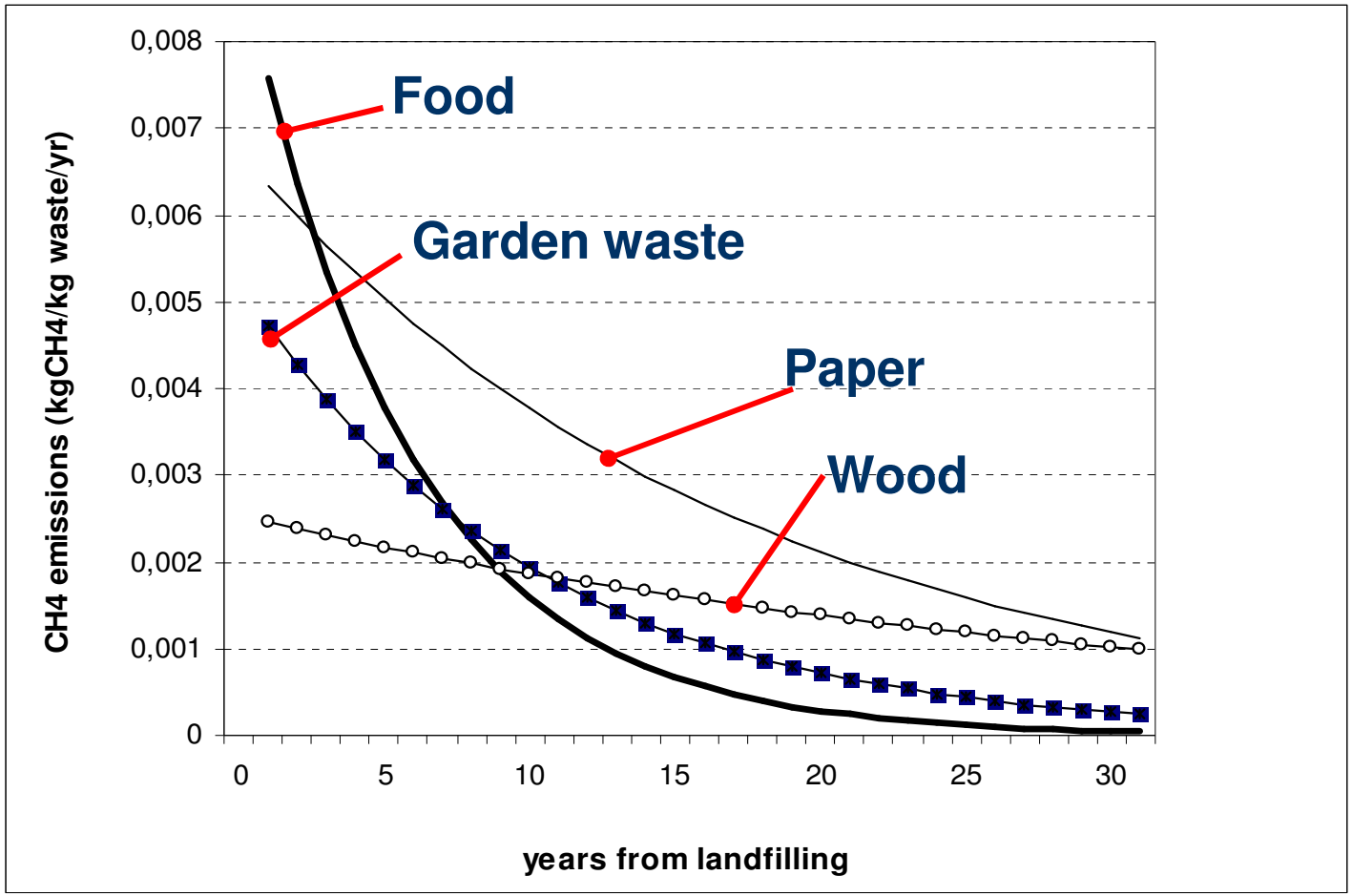
In 2020: recycling 34%, incineration 23%



# Modeling GHG emissions from landfill

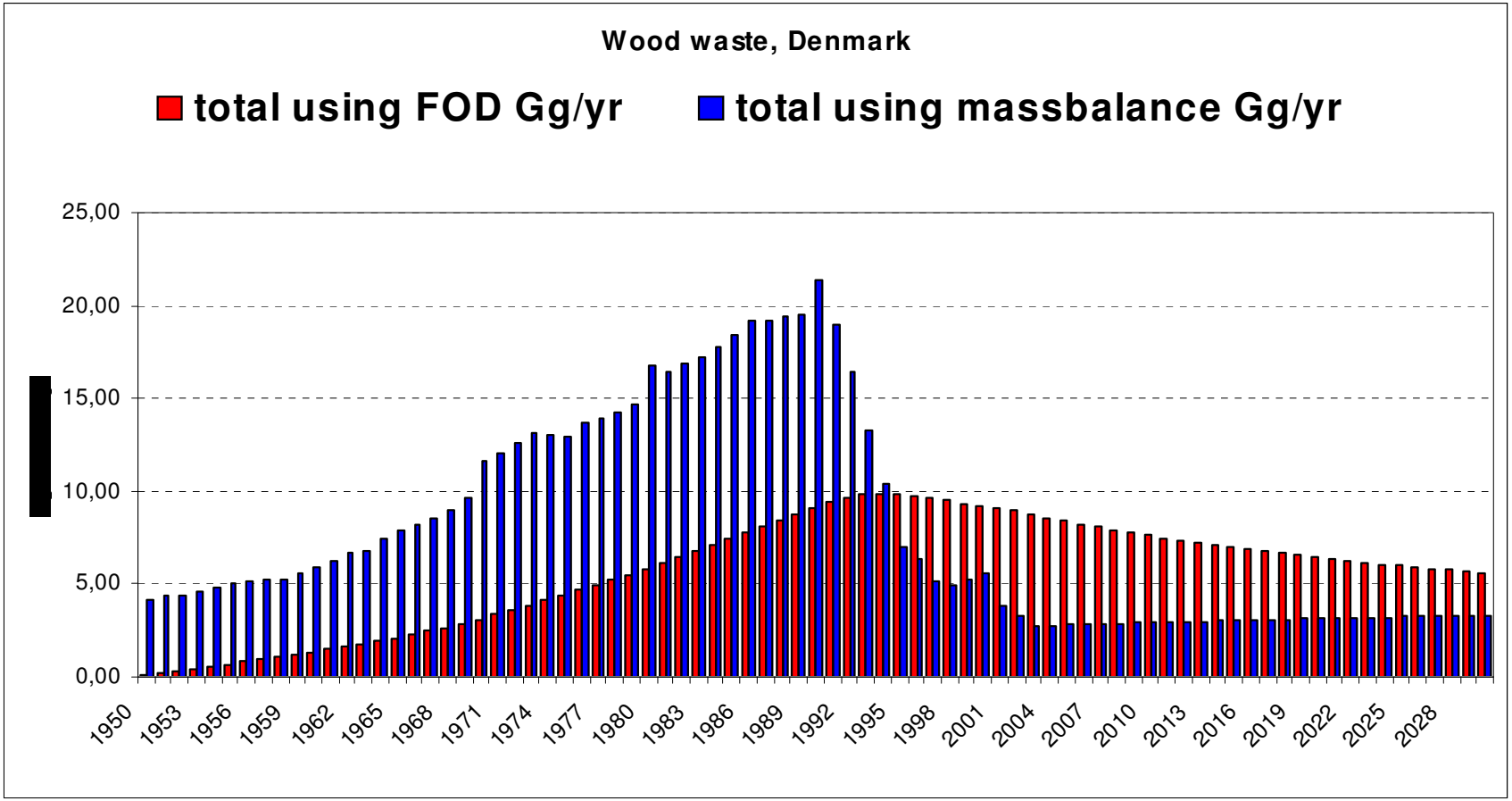
## First Order Decay model - recommended by the IPCC

**1 kg municipal waste**



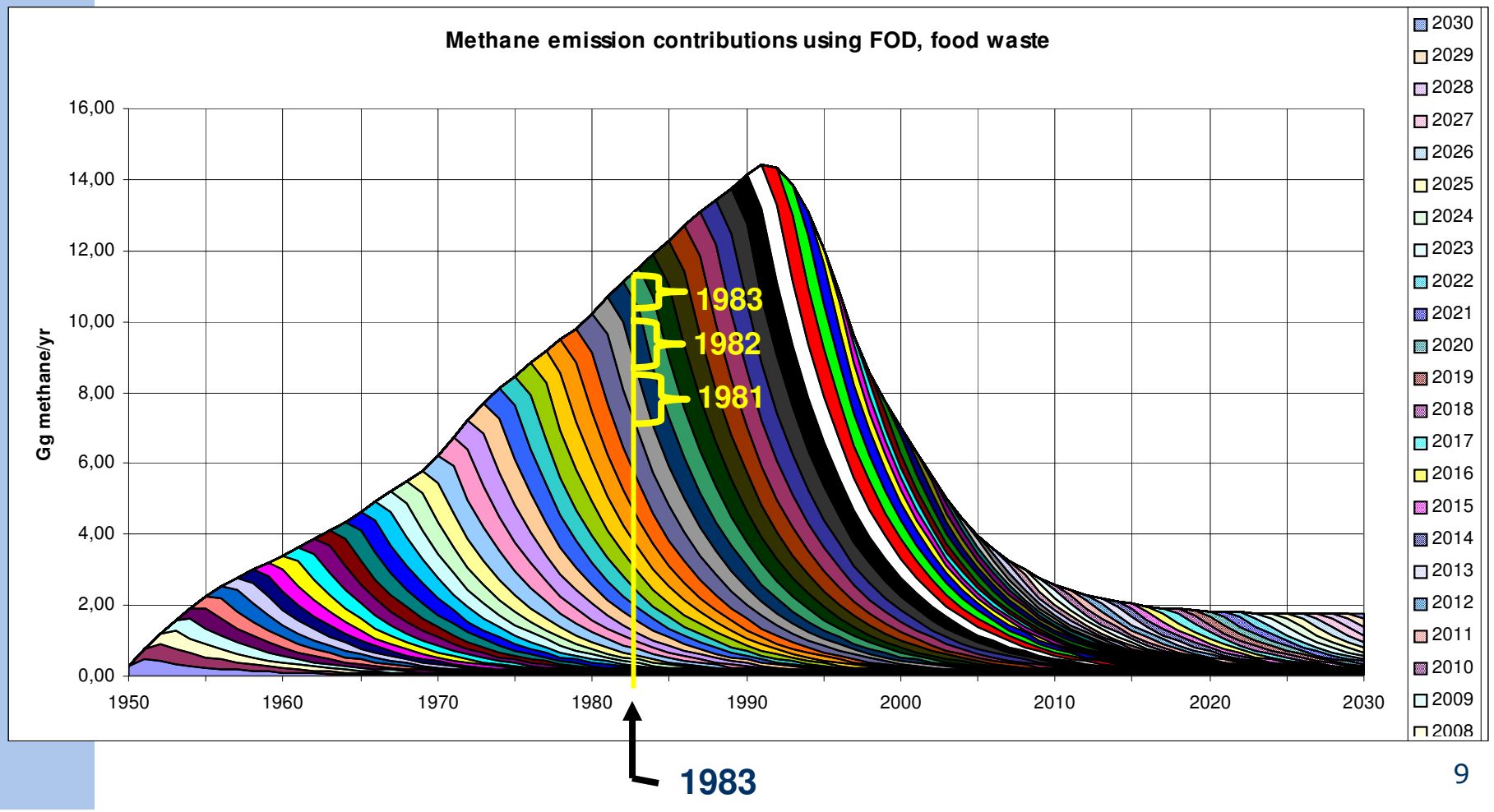
# Background for the landfill projection

## FOD vs. immediate release - wood waste



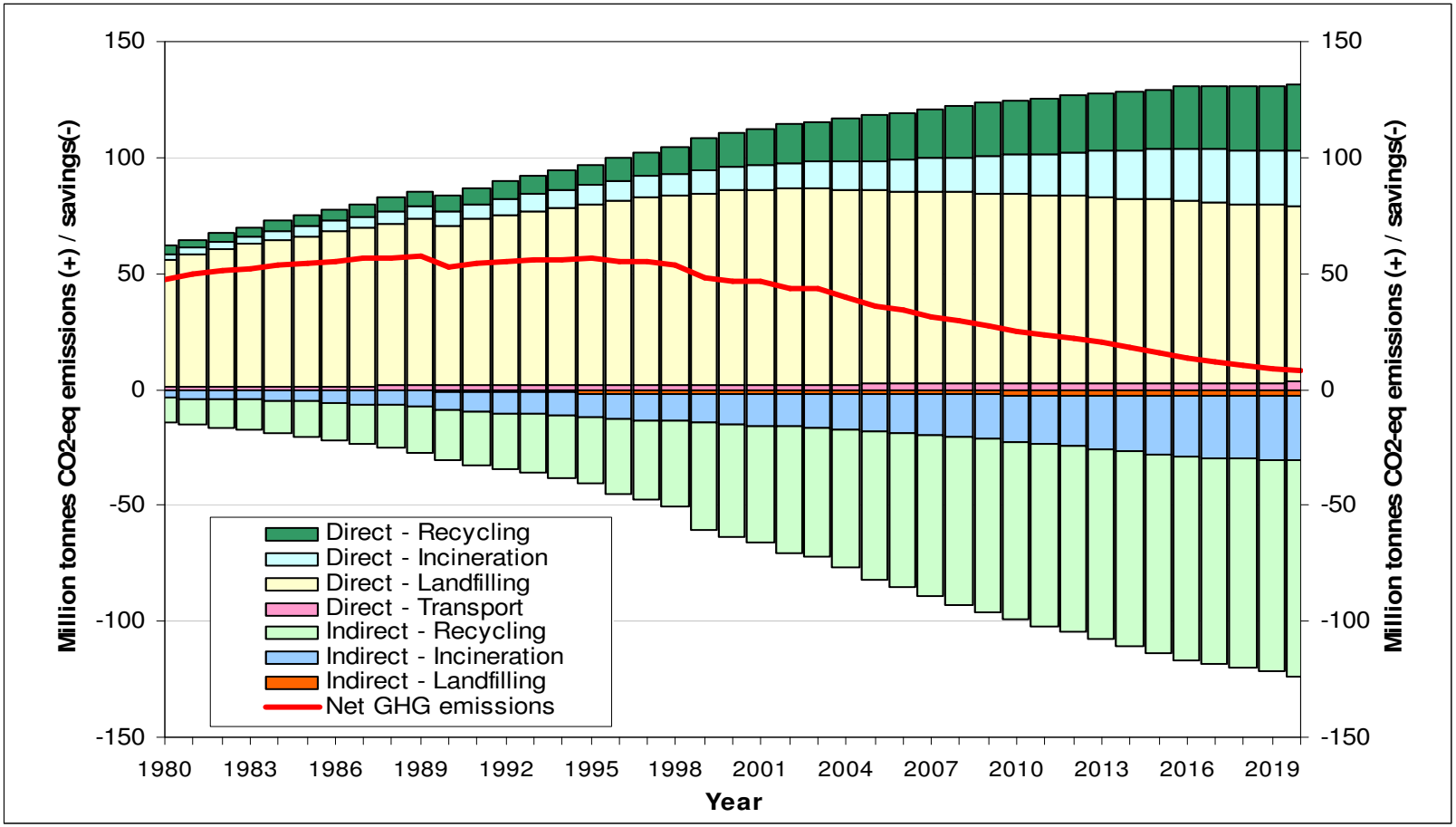
# Background for the landfill projection

## FOD example: Denmark, food waste



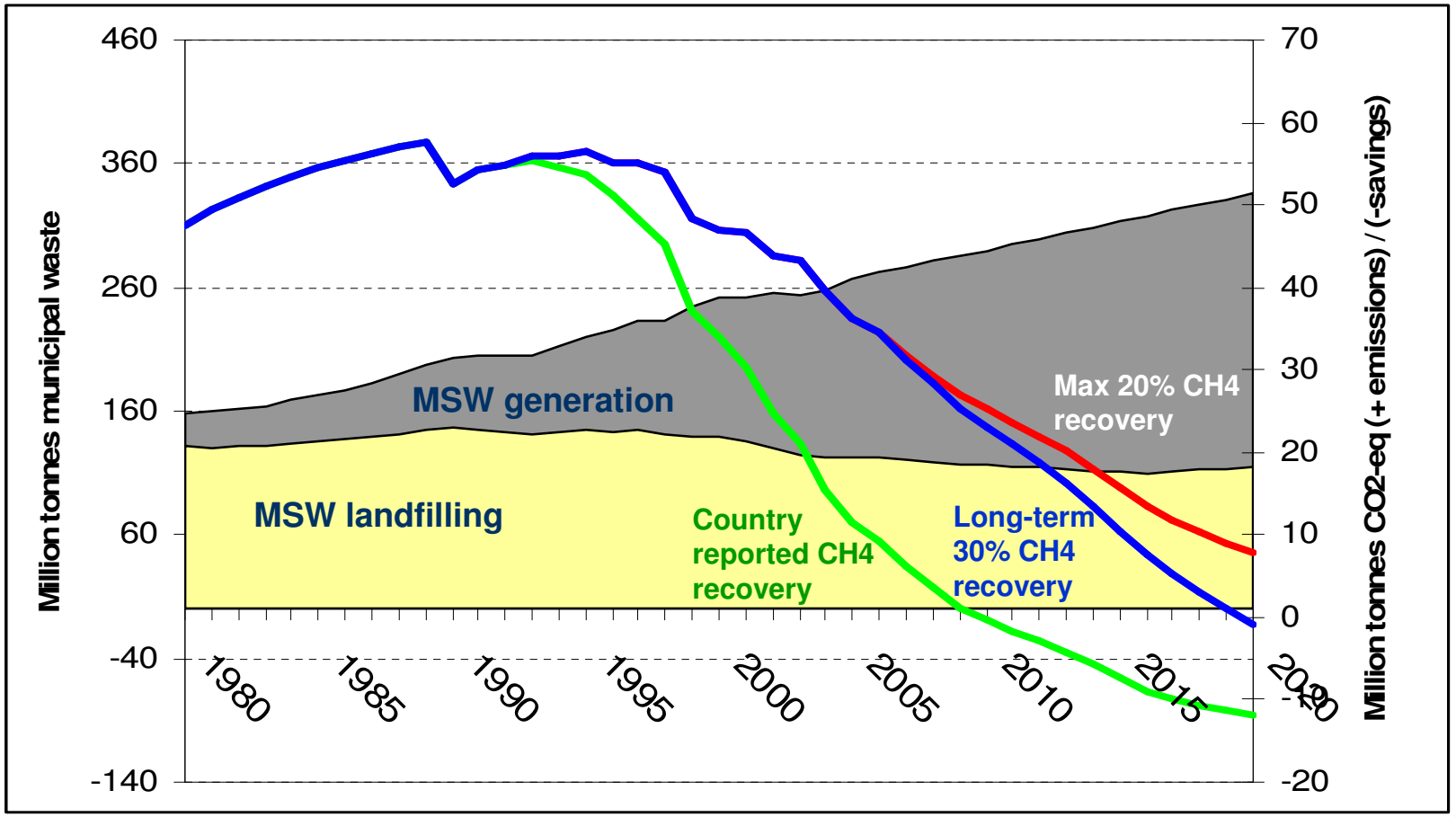
# Net GHG emissions, EU-27

## Max 20% methane recovery



# Net GHG emissions from management of municipal waste, EU-27

## Uncertain range of methane recovery



# Objectives in the European Union

**6th Environment Action Programme:**

- Significant reduction in
  - waste volumes generated
  - quantity of waste going to disposal
- Decoupling of waste generation from economic growth (environmental pressures)

Can we expect this to happen in the EU-27 in the next 15 years?

# Findings

**Outlook for the EU, 2005-2020:**

- 25% growth in municipal waste - striking differences between Member States
- Increased recovery of waste - EU policies play a key role
- Considerable reduction in net greenhouse gas emissions from municipal waste management by 2020 - ***if*** a life-cycle perspective is taken
- Further effort on waste prevention would reduce greenhouse gas emissions

# New EEA Briefing published today

- EEA Briefing 2008/1: Better management of municipal waste will reduce greenhouse gas emissions
- Supporting document
- ETC/RWM Working Paper
- Web:

  http://www.eea.europa.eu/

  http://waste.eionet.europa.eu/