General findings and projections

On the example of the EU27

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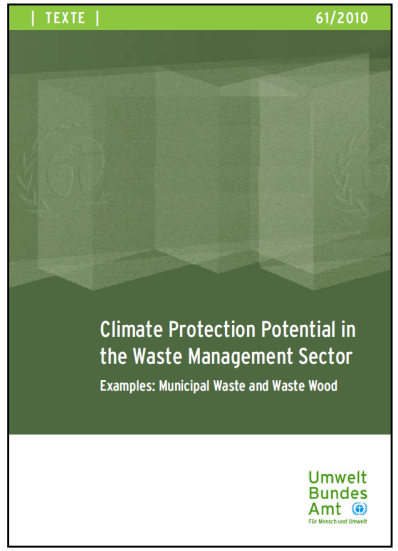
Overview

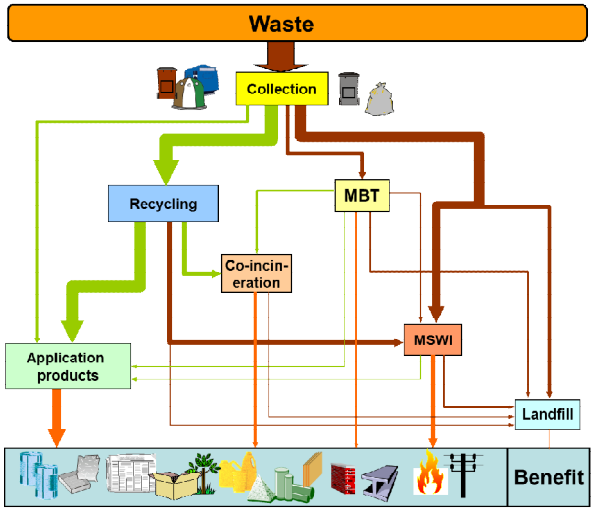
1. Background and methodology
2. Example GHG-balance for the EU27 (2010 study)
3. General findings SWM and GHG mitigation
4. EEA Report (2013) – review of achievements, Landfill Directive targets
5. Projections

Studies on SWM and GHG mitigation



- Goal:
  demonstrate GHG mitigation potential in the waste management sector

- Methodology:
  LCA in waste management
  - starts with waste (previuos life excluded)
  - allows system comparison provided that benefits of systems are equal (same total waste amount, credits for benefits)
  - sector approach (credits = avoided emissions in other sectors attributed to waste sector)
  - all emissions related to waste amount considered (esp. important for landfill emissions over decades)



Waste quantities and scenarios EU27 (2010 study)

2007 current situation

Waste amount:
250 mill. tonnes

Waste treatment:
42% landfill
21% incineration
8% MBT
(incl. MSW composting)
16% Recycling
13% Composting

EU27 Potential 2020

Assumptions: ban on landfill; technology similar to Germany

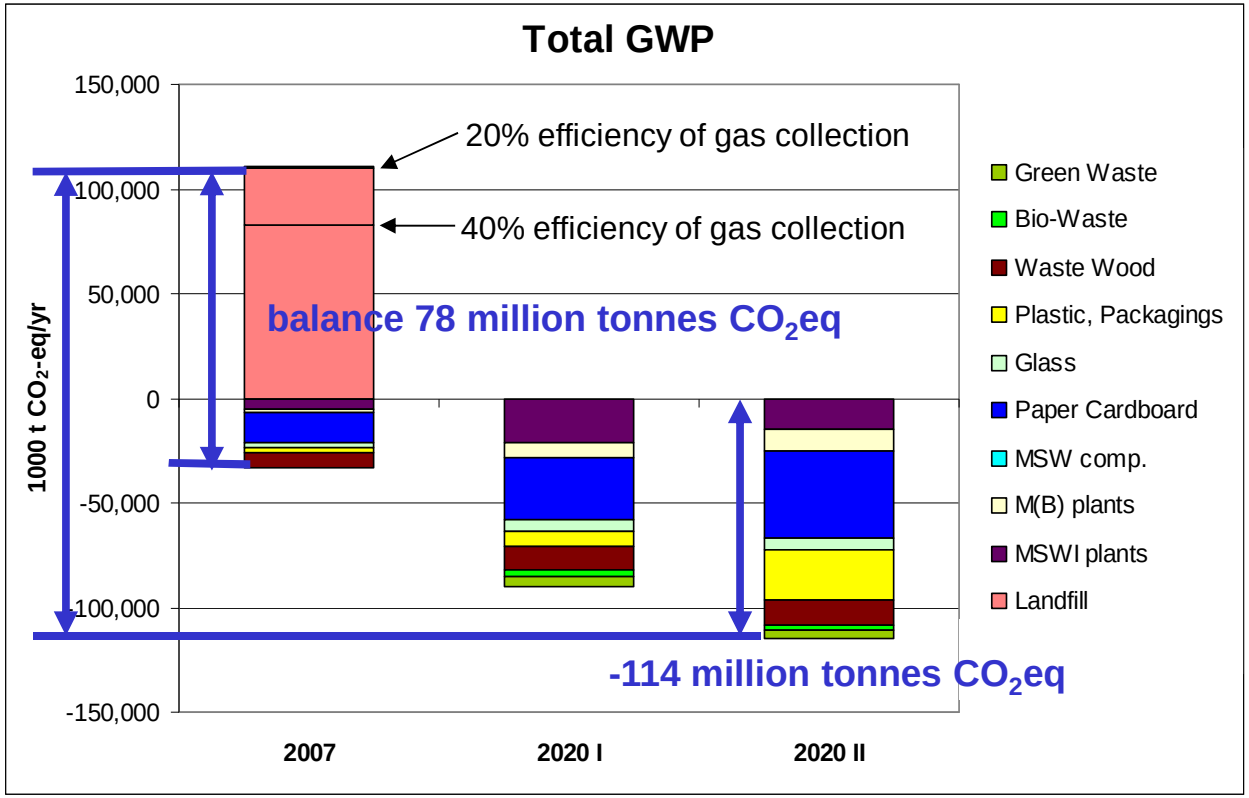
Scenarios:
- 2020 I waste no more landfilled uniformly distributed as in 2007
→ recycling rate 50%
(EU waste framework directive)

- 2020 II waste no more landfilled treated like current practice in Germany (2007)
→ recycling rate 62%

- Calculations per waste type and for residual waste

GHG balance of MSW in the EU27 (2010 study)

- 2007 GHG emissions from landfill caused up to **110 million tonnes CO_2eq**



- Increase of recycling and technical optimisations until 2020 achieve total net savings of up to **192 million tonnes CO_2eq**

- This corresponds to **32%** of the 600 million tonnes CO_2eq that the EU27 aims to minimize according to the voluntary target for 2020

General findings

- Diversion from landfill is the main contributor to GHG mitigation in the waste management sector
- Even in case of managed landfills with a high gas collection efficiency a significant GHG mitigation still remains due to the potential of benefits from material recycling and from waste to energy (especially co-incineration)
- The overall possible contribution to national GHG mitigation goals is relevant

EEA Report No 2/2013 - review of achievements

EU Landfill Directive (1999)

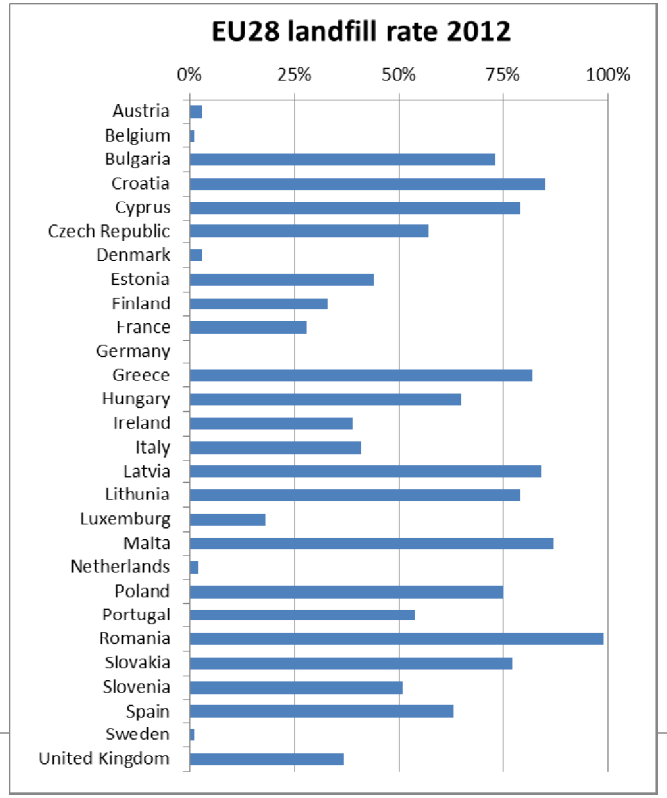
Base year MSW generated 1995
biodegradable municipal waste
reduce to 75% by 2006 (2010)
reduce to 50% by 2009 (2013)
reduce to 35% by 2016 (2020)

12 countries without derogation period

- All 2006 target
- All but one 2009 target, and already 7 fulfilled 2016 target

12 countries with a 4-year derogation
4 countries with individual derogation

- 7 achieved 2010 target, 1 almost, 2 already fulfilled 2013 target
- 8 countries had problems fulfilling the 2010 target, this seems also to be the case for 2013 target



Projections

- About 1/3 of the EU28 countries seem to be unable to divert biodegradable waste from landfills
- In combination with increasing waste amount in some of these countries GHG emissions will increase
- Other EU countries have come a long way in only about 15 years in terms of implementing waste management and diverting waste from landfills
- Reasons for fulfilling or not fulfilling the target are different but seem to be a question of national priority
- National priority could be raised by a zero landfill target at EU level
- How can/will the EU further support countries to improving waste management?

Thank you!

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