



Flanders  
State of the Art

# From waste to resources

Resource efficiency crucial for climate change mitigation

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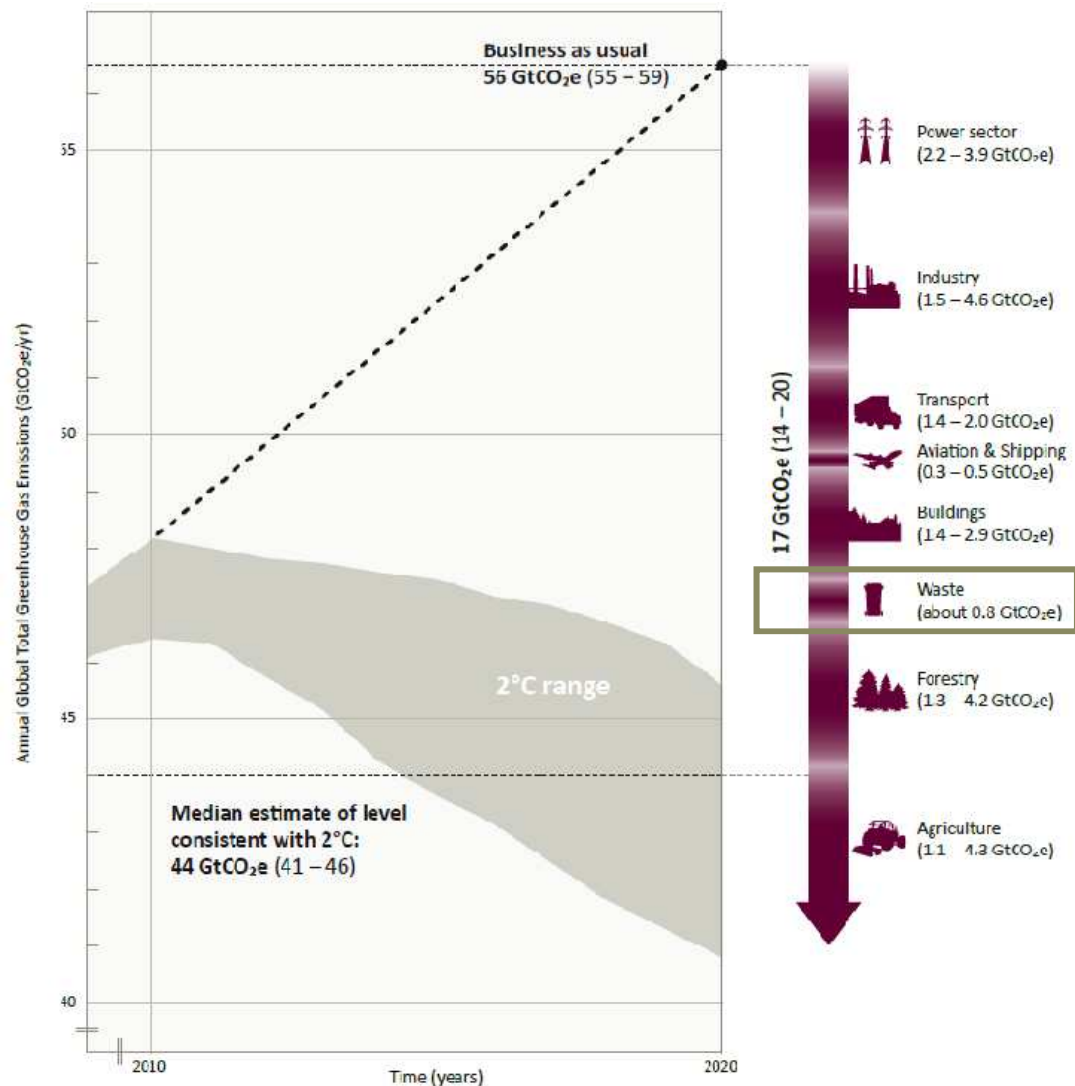
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# 1. Urgency and challenges



(UNEP 2011)

► Technology is available (UNEP 2011)

► Advanced waste management: important contributor (?/! )

► Potential in waste sector :  
± 0,8 GtCO<sub>2</sub>eq/year

= ± 5% of the mitigation potential  
= waste sector in strict sense

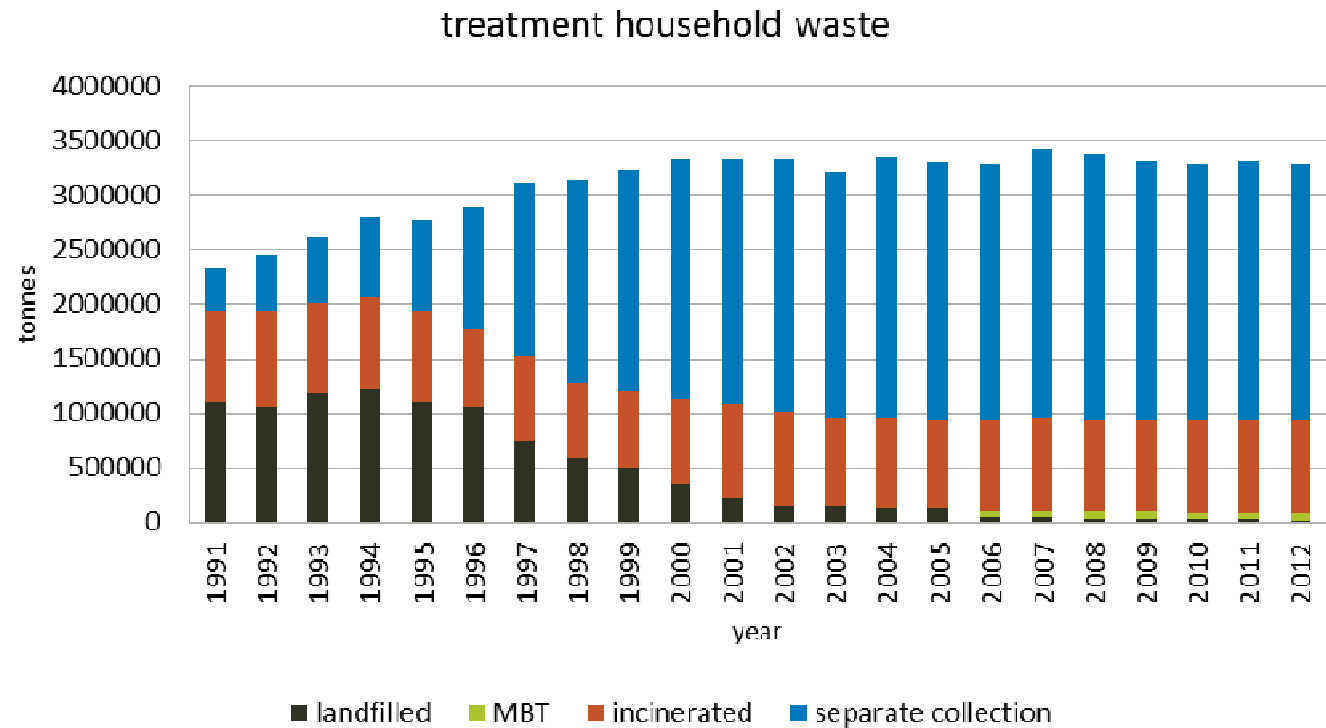
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## 2. Experience: Belgium & Flanders

### ► Evolution to a circular economy

→ 70% separate collection

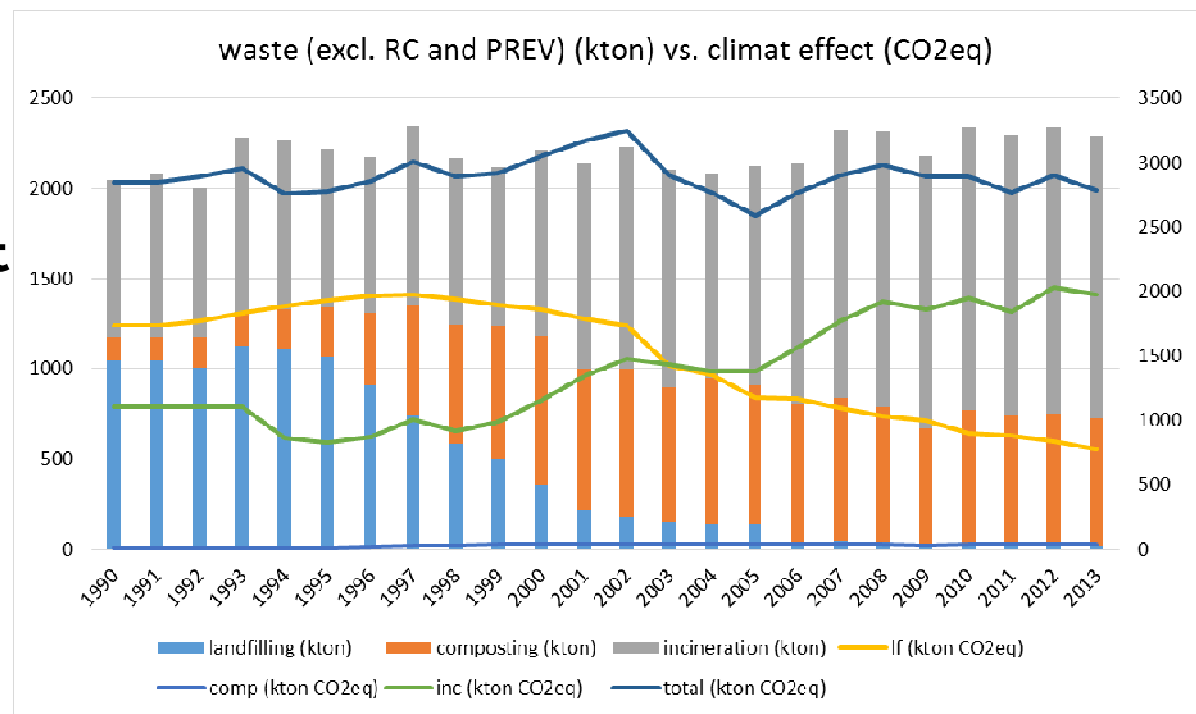
→ extensive policy



(OVAM, Household waste)

## 2. Flanders : MSW + Commercial waste (LF, Inc, Comp) - climate effect

- ▶ **Reduced landfilling**  
1 M tons -> no need for capacity
- ▶ **Development = efficient WtE capacity -> electricity 150000 households + heat and process steam**
- ▶ **Compost production: 350-400 kton**
- ▶ ***!! avoided CO2eq by recycling & prevention !!***



OVAM (2015), Flemish Environment Agency (2015)

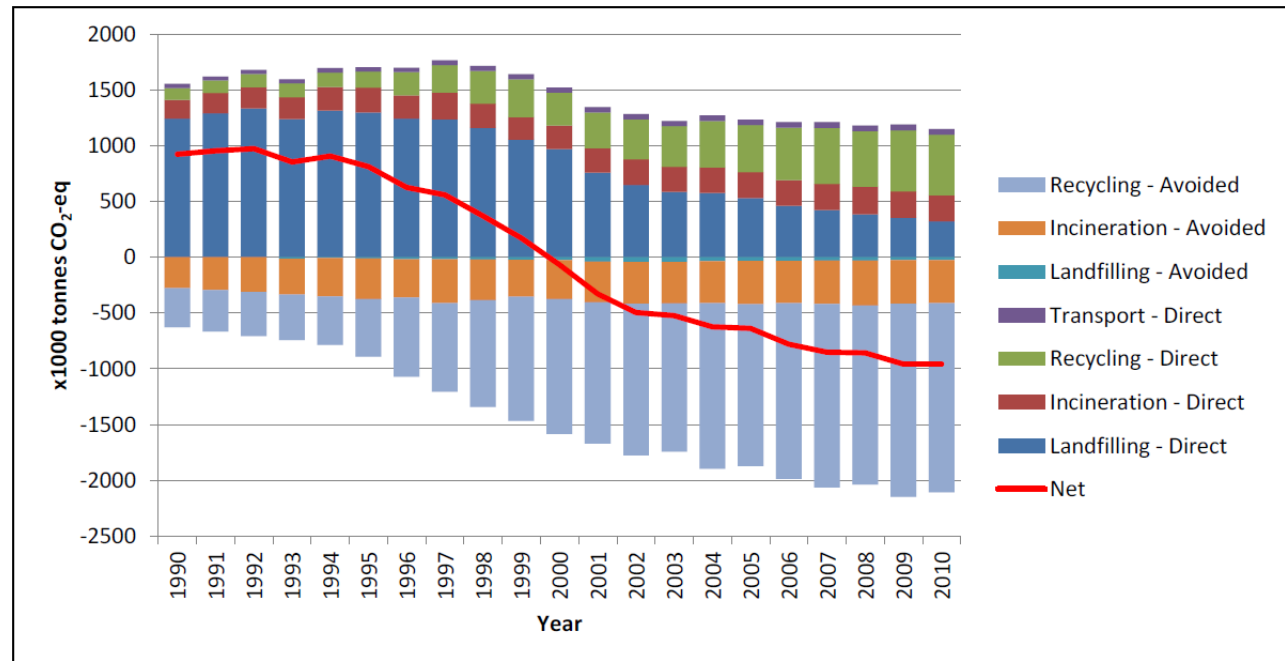
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## 2. Belgium : GHG from MSW

- Shift to advanced waste management (PREV + RC) : avoided emissions
- Since '90: 2 Mton CO<sub>2</sub> avoided

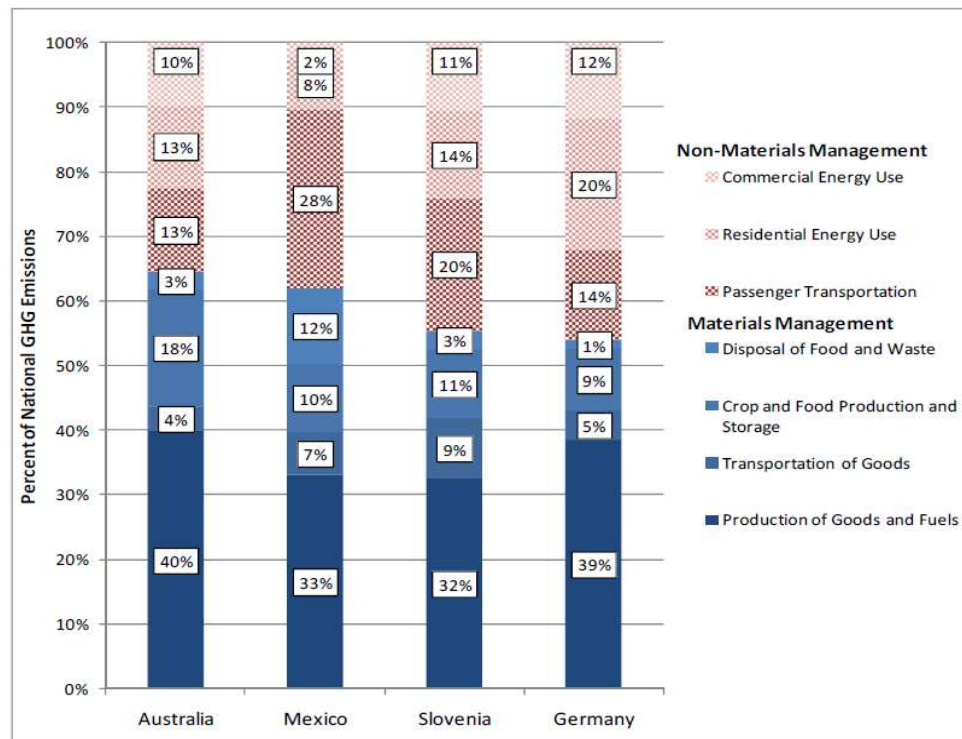


(Municipal waste management in Belgium (EEA, feb 2013) )

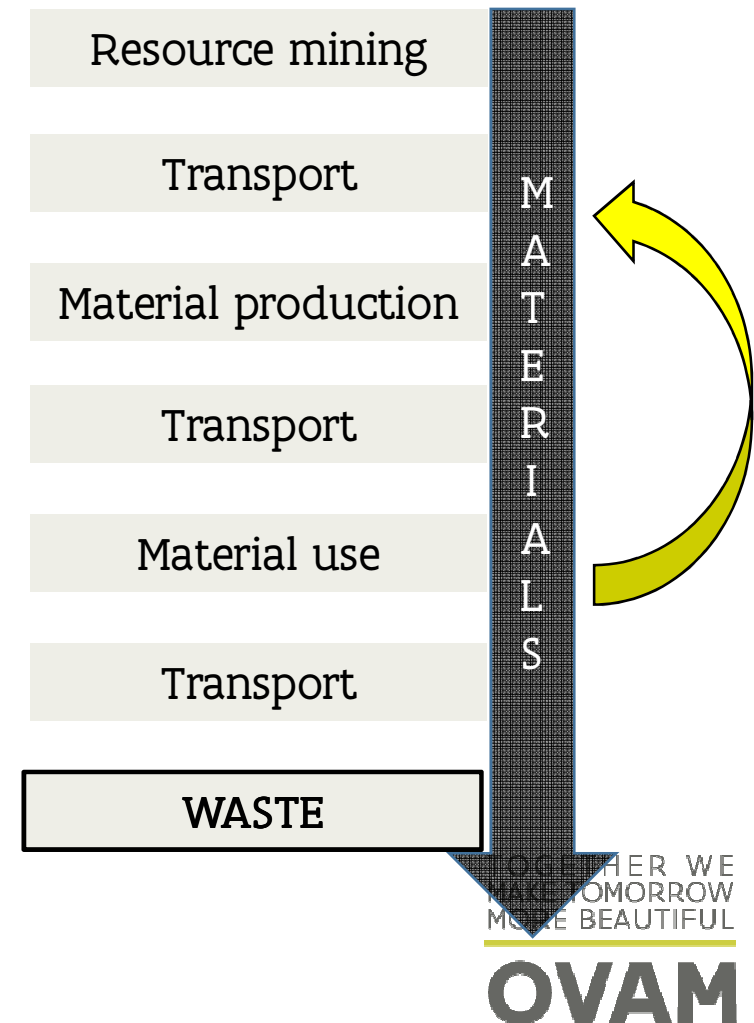


### 3. From Waste to materials strategy

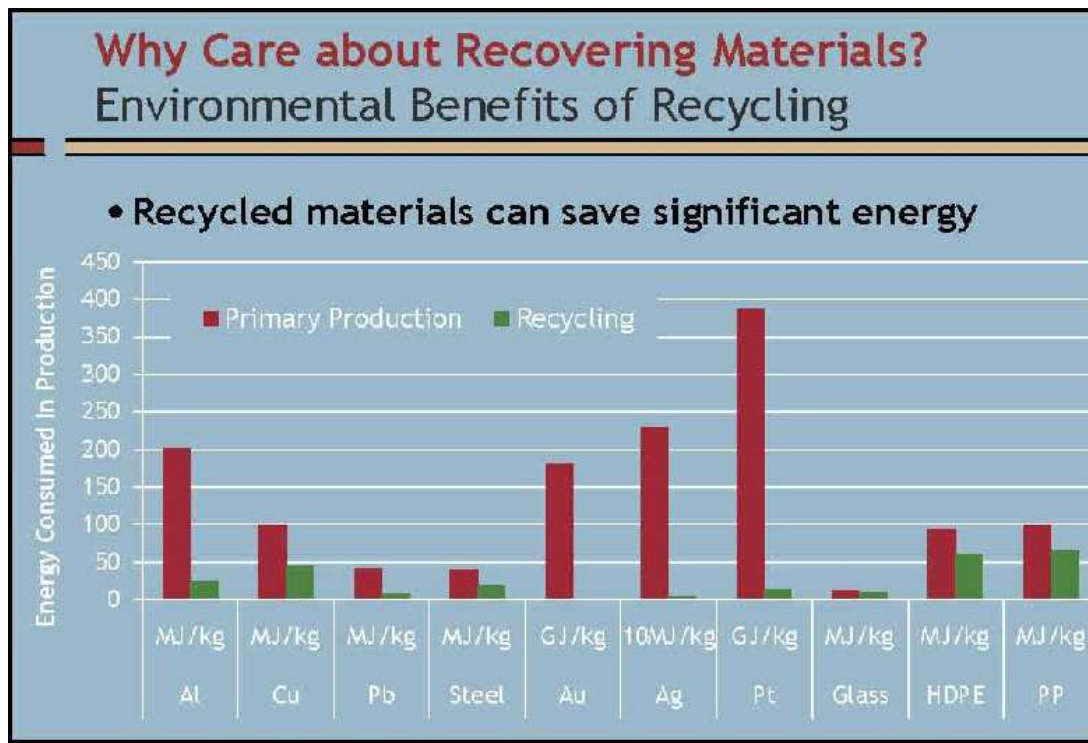
- ▶ Innovative materials management can do more
- ▶ Importance of (eco-)design, technology
- ▶ Current use of materials causes 50 – 65 % of the GHG (OECD 2012)



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### 3. From Waste to materials strategy



- ▶ Potential of material strategy is enormous
- ▶ Recycled materials: 10 - 95 % less energy compared to primary materials
- ▶ Separation or selective collection (?)
- ▶ Materials lost = CO<sub>2</sub> emitted
- ▶ Effect = f(material, amount)



## 4. General conclusions

- ▶ Current material use: 50 – 65 % of the GHG (OECD 2012)
- ▶ Significant GHG reductions by transition from linear economy to circular approach on material management (direct & indirect)
- ▶ Circular economy : creates jobs and makes economy less vulnerable to resource scarcity
  - Flanders: 27.000 jobs (Dubois et al. 2014, SuMMa)
  - EU: 180.000 jobs (Europ. Comm 2014, Impact Assessment)
- ▶ Advanced waste management, focusing on prevention and recycling: essential contribution to climate policy
- ▶ Flanders paves the way
  - Focus on separate collection for reuse and recycling
  - Mix of instruments (taxes, EPR, waste management planning...)
  - System change (Flemish materials program)

# Thanks for your attention Are there any questions?

**Acknowledgement to VMM (Flemish  
Environment Agency)**

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