

## From Waste to Resources: Closing the Loop



Wiebe Bosma  
Advisor on Sustainable  
Development  
HVC

[www.hvcgroep.nl](http://www.hvcgroep.nl)

## This presentation

- Introduction to HVC
- Gas and compost from organic waste
- Resources from residual waste
- Lessons (to be) learned



[www.hvcgroep.nl](http://www.hvcgroep.nl)

## Introduction HVC

Public service waste and renewable energy company

Owned by 52 municipalities and 6 district water boards

Founded 1994

Change of focus

- waste incineration, low emissions
- recovery of renewable energy
- production of secondary raw materials



## Waste cycle: from prevention to energy



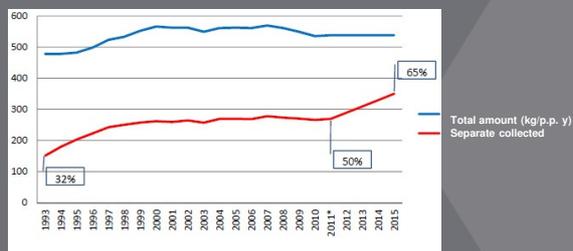
## Gas and compost from organic waste

- Separate collection followed by anaerobic digestion
- Production of energy in stead of only consumption of energy
- Transformation of biogas into green gas
- Green gas is fed into national grid
- Production of compost for agricultural use = loop closed!

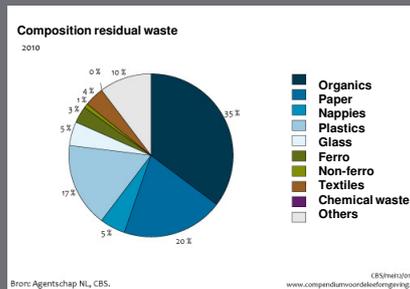


## Resources from residual waste (1)

- Residual waste
  - goal 65% recycling
  - huge step



## Resources from residual waste (2)



- a lot of resources in residual waste
- other methods of waste collection necessary

## Resources from residual waste (3)

- Project 'Dry and Re-usable'
- Door-to-door co-mingled collection
  - Paper and cardboard
  - Plastics
  - Ferro and non-ferro
  - Wood
  - Electric and electronic devices
- High service to collect resources
- Sorting into secondary raw materials
- Positive results from tests in 2 municipalities



## Lessons (to be) learned

- Importance of public awareness
  - public is the source of our resources
- Awareness within own organisation
  - not a threat but a challenge
- Technical and economic feasibility
  - based on assumptions
- How to cope with prejudices
  - open communication
  - show results

## Take it to the next level

- Role as a public service company
- Coöperation with other (public and private) companies
- Not only cherry-picking but looking at the best integral solution
  - For our shareholders
  - For the residents of our municipalities
- Looking for new opportunities

## Phosphate recovery (1)

- 6 waterboards as shareholders
- Incineration of sewage sludge (350.000 t/y)
- Ashes contain about 20 - 25% phosphate



## Phosphate recovery (2)

- Declining production due to limited natural resources
- Recovery of phosphates from ashes from sewage sludge incineration
- Decision on building a plant to be taken in 2012

