



amsterdam economic board

Transition towards a circular economy: *The case of the Metropole region Amsterdam*

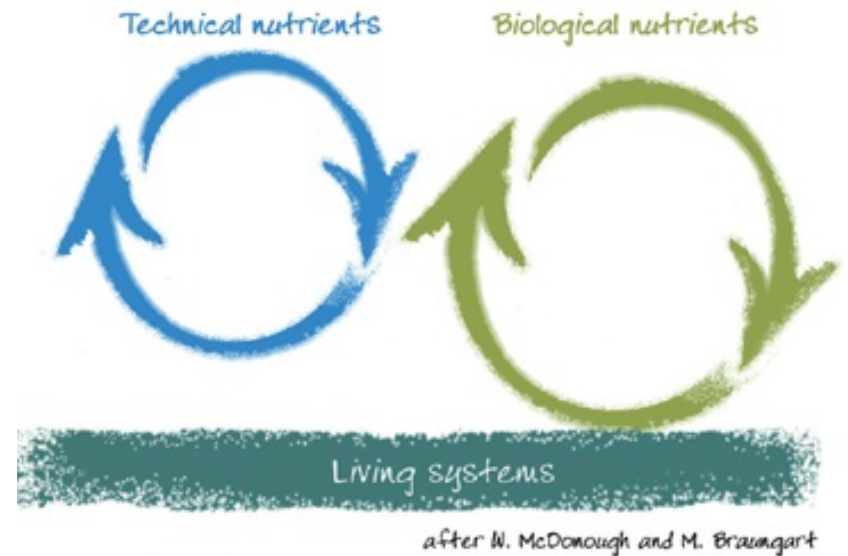
Jacqueline Cramer
Ambassador Circular Economy

I amsterdam®

We move from a linear economy...



... To a **circular** economy



This generates direct financial benefits...

... But also indirect benefits

USD 380-630 billion/yr
cost savings in EU¹



7 billion EUR/yr
market opportunities
in the Netherlands²



83,000 potential extra
jobs in the Netherlands³



2.9–3.7 trillion USD
in 2030 by increase of resource
productivity worldwide⁴



Improvement of
security of supply



Development of
new knowledge



Trigger for innovation
and new businesses



Decrease of environmental burden

I amsterdam®

1. E. MacArthur Foundation

2. TNO

3. Rabobank

4. McKinsey

The ambition of the Metropole Region Amsterdam (MRA) is to be worldwide frontrunner in finding smart solutions for the limited availability of resources by redesigning and closing of product and resource cycles. At the same time we realize innovation and new businesses within the Metropole region

Criteria for selection of initiatives

Scale: action required at the scale of the Metropole region Amsterdam

1

Synergy: action relevant for companies, regional governments, knowledge institutes and citizens

2

The Metropole Region Amsterdam

Why is this region interested in taking the lead?

- Densely populated area (2.3 million people generating a circulation of large amounts of products and materials)
- Many innovative and sustainable entrepreneurs
- Broad scope of economic activities and knowledge infrastructure
- Outstanding logistic network
- Societal support for initiatives in the transition towards a circular economy
- Leadership via representatives of industry and government



Focus of MRA is on 2 themes, with circular entrepreneurship as cross cutting initiative

Theme 1: Climate and energy

- *Reuse of heat and (industrial) CO₂ via extension of infrastructure*
- *Energy transition in the built environment*



Theme 2: Resources

- *Product reuse and redesign via circular procurement*
- *High value recycling: 9 priority material streams in 2017*



Cross cutting initiative: circular entrepreneurship

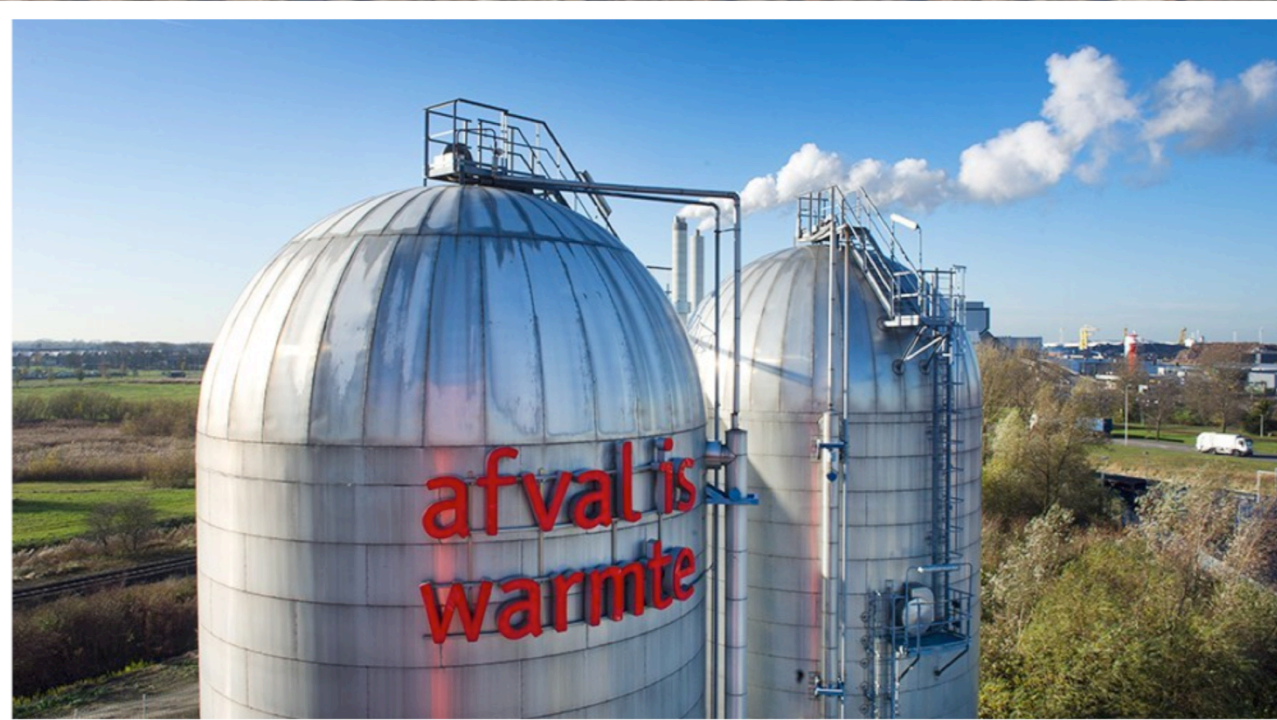
- *Promotion of circular start-ups*
- *Strengthening the business-ecosystem*

Theme 1: Climate and Energy

MRA Use of Heat & Cold:

Societal support increases (now: 31 partners)

Aim: 500.000 home equivalents connected in 2040



CO2 smart grid West Netherlands: Capture, storage and reuse of CO2



21 partners involved

amsterdam economic **board**



amsterdam
economic
board



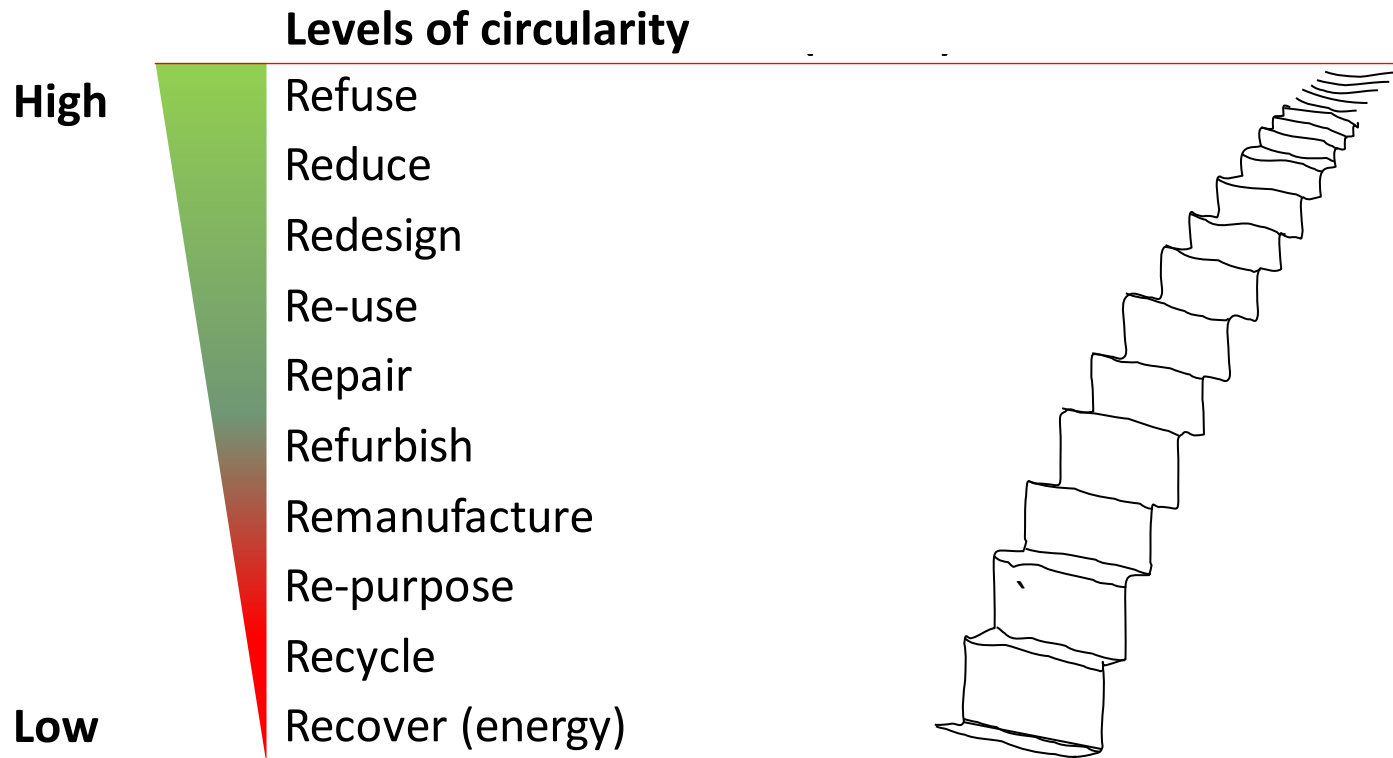
Energy transition in the built environment



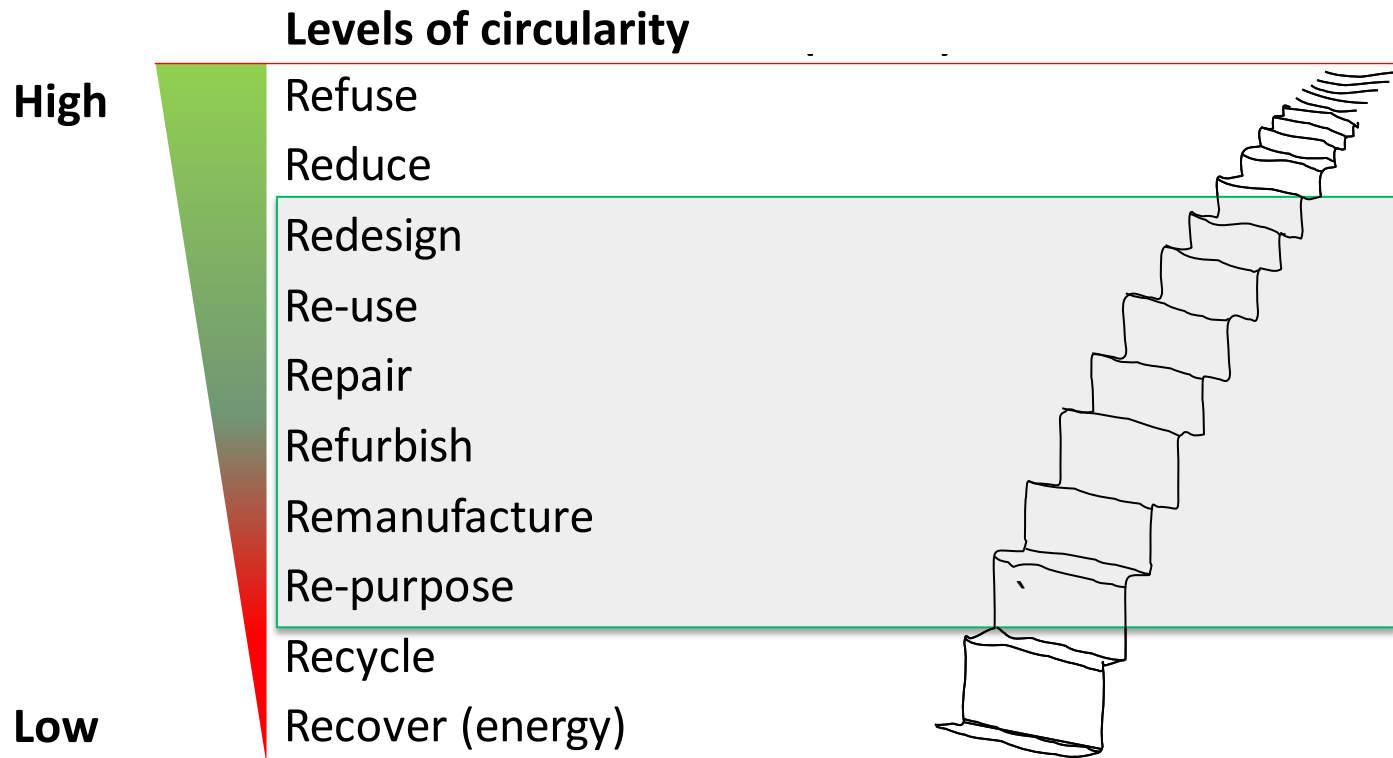
Theme 2: High value reuse of products and materials



Ladder of circularity: the MRA gives priority to the options that are as high as possible on the ladder



Ladder of circularity: the MRA gives priority to the options that are as high as possible on the ladder



Redesign: through redesign products can be brought back into the cycle with high value creation



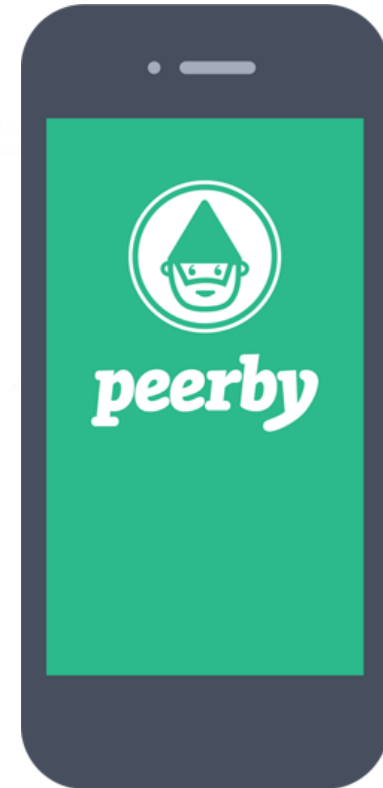
Redesign: redesign can also be based on renewable resources (e.g. bamboo, flax, hemp, public greenery and waterplants)



There are many ways to reintroduce a product in the economy



New business models are also being developed:
sharing and leasing redefine product ownership



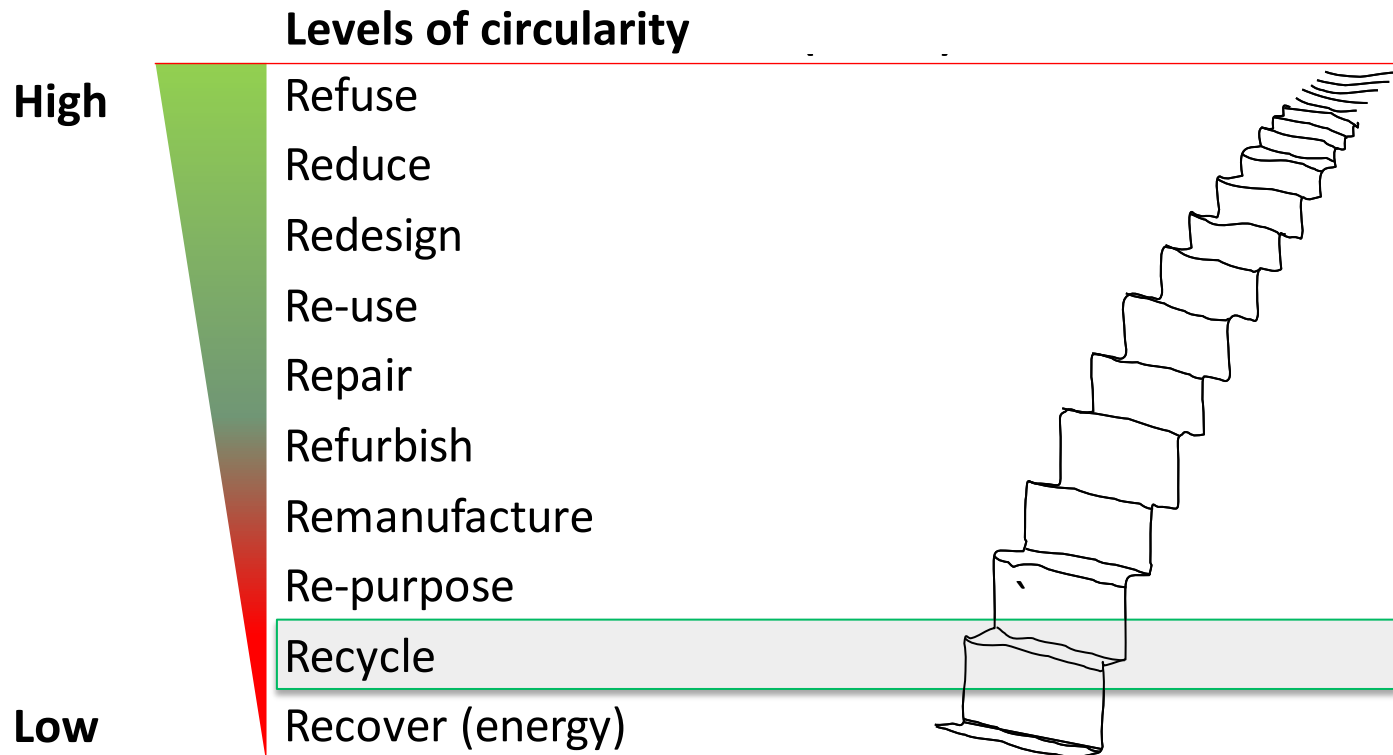
Circular procurement can help stimulate circular products – but with clear criteria

Examples of criteria

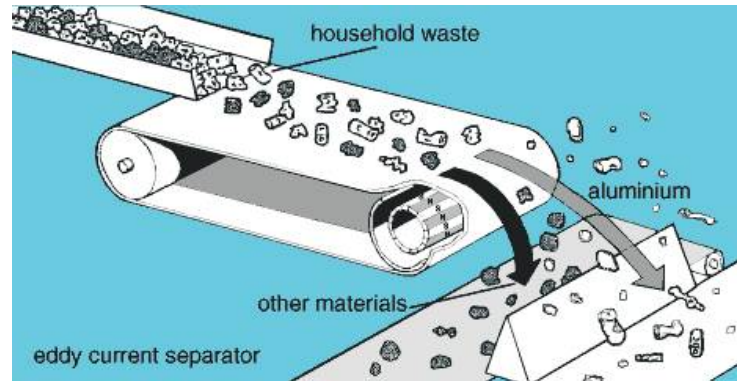
- Degree of circularity of material/product
- Improvement of product/service on People, Planet and Profit
- Judgement based on objectivity, transparency and non-discrimination
- Also adoption of startups possible?



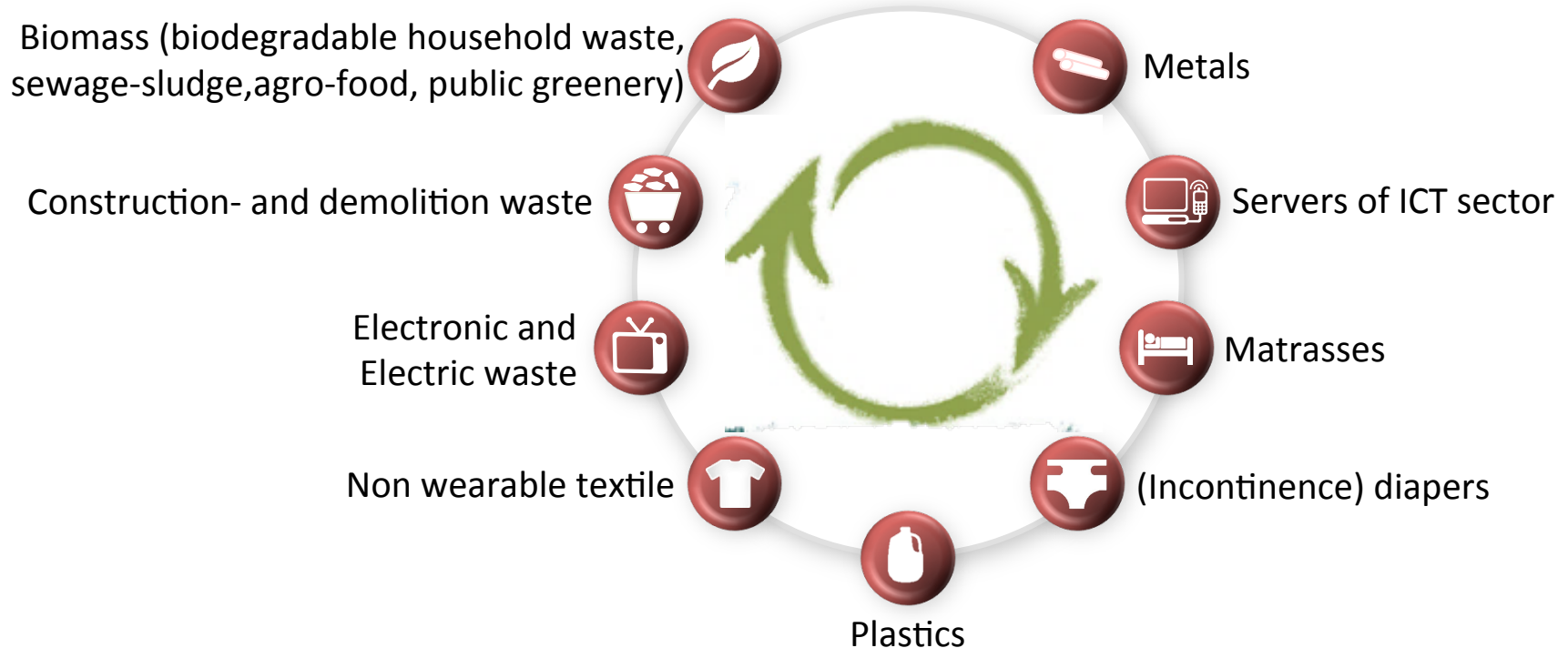
Ladder of circularity: the MRA gives priority to the options that are as high as possible on the ladder



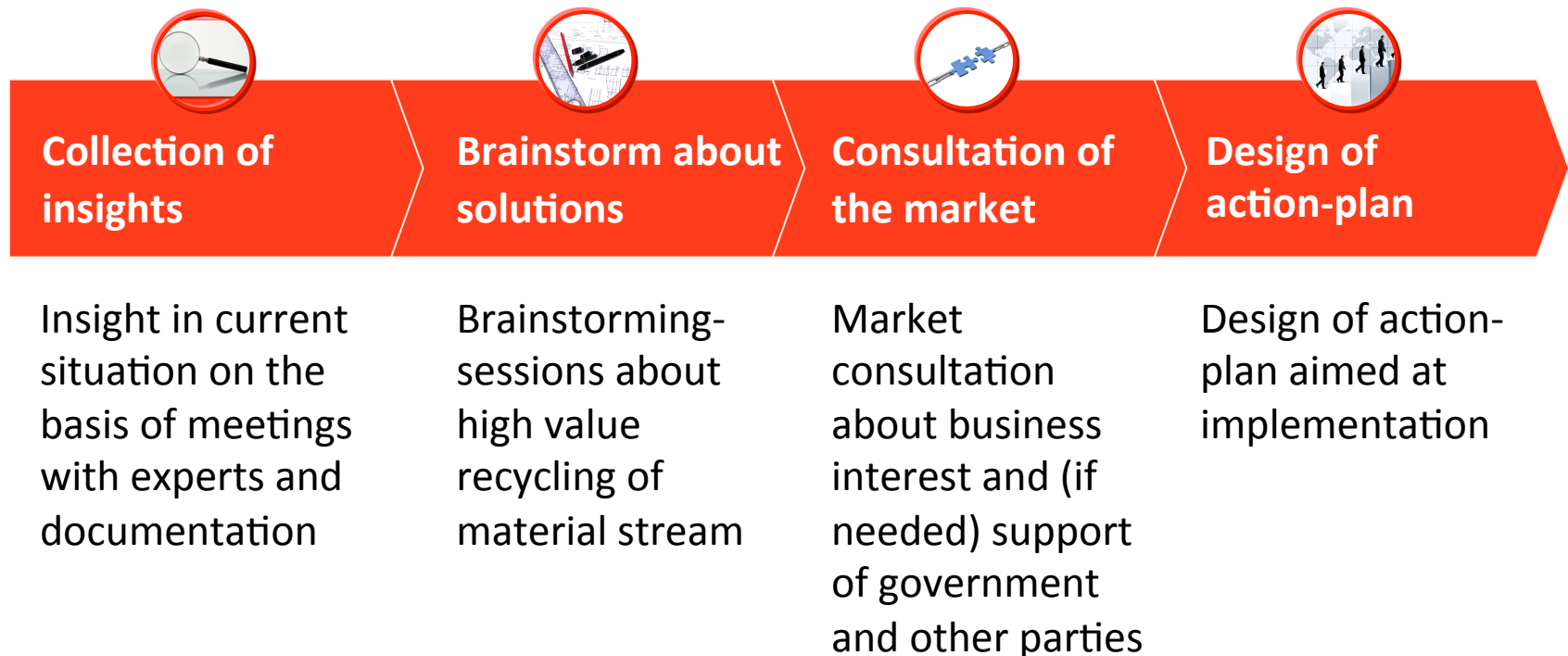
Recycling: although much has been triggered,
there is still a world to win



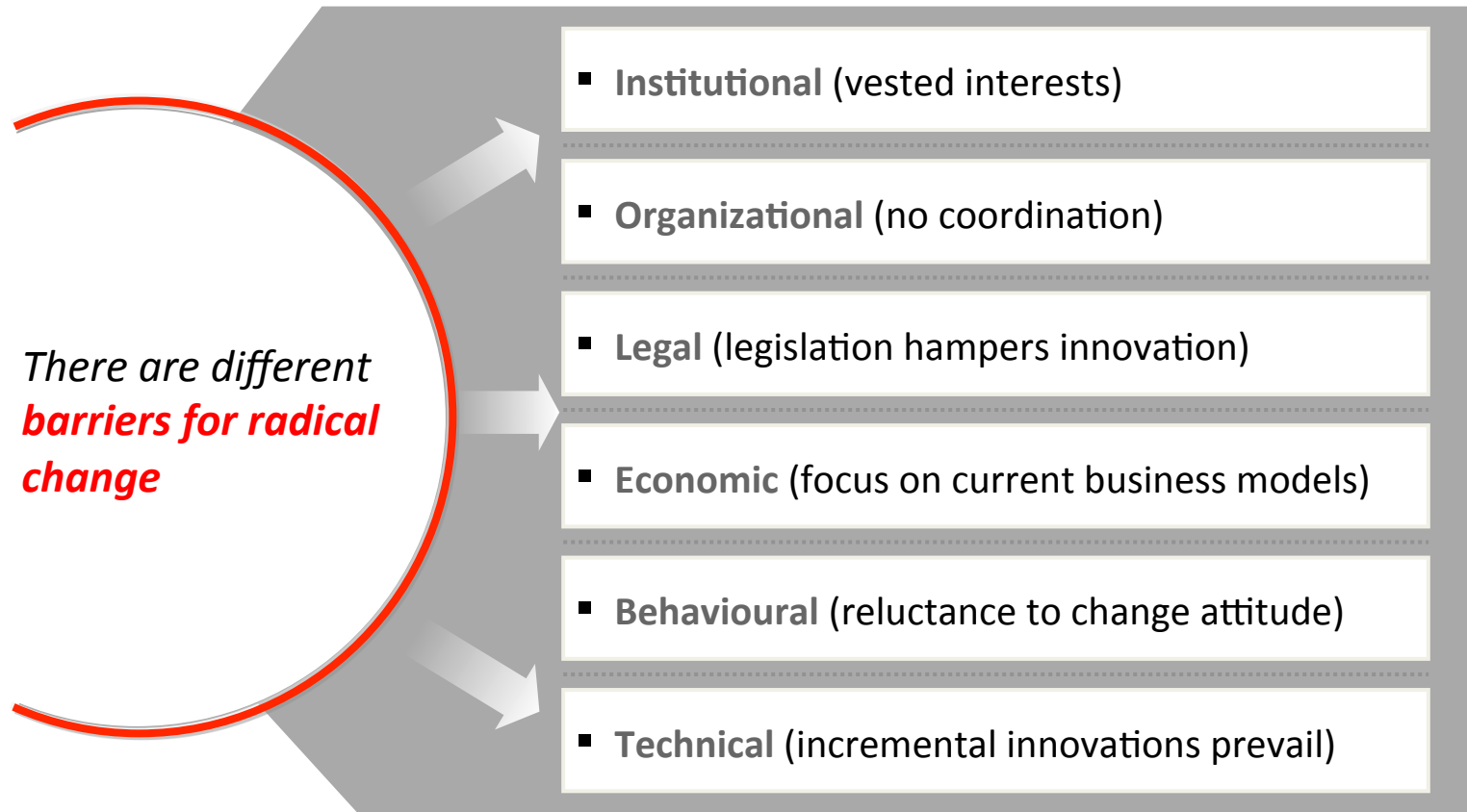
The MRA has started with high value recycling of 9 priority resource streams



The approach of material streams is tailor-made



There are different barriers for radical change



Case 1: high value recycling of biomass stream
Biodegradable household waste, sewage-sludge,
agro-food, public greenery and waterplants



amsterdam economic board

Example: Reclamation of resources from sewage sludge, e.g. phosphates, cellulose, nitrate, metals



Example: High value recycling of waste streams from the food industry



Case 2: Circular demolition and construction in Amsterdam West of 470 houses



95% resource reuse; climate neutral, green

Case 3: Textile recycling (second hand /non wearable)



Case 4: Closing the loop of plastic waste



The approach of closing material streams is tailor-made, but there are 7 generic preconditions for change

Item	Description
▪ Proper balance	▪ Finding a proper balance between closing loops at local or higher level
▪ Decrease of incineration	▪ Attuning decrease of incineration and development of circular activities
▪ Sufficient supply and clear demand	▪ Taking care of sufficient supply of waste streams to be recycled and clear demand for recycled material
▪ Quality of product	▪ Securing the quality of product use and recycling
▪ Legal and technical	▪ Taking away legal and technical barriers
▪ Transition process	▪ Orchestrating and communicating the transition process towards circular economy
▪ Financial and organisational	▪ Developing and applying new financial and organisational arrangements

The Amsterdam Economic Board is a cooperation between regional governments, companies and knowledge institutes

amsterdam economic board

Knowledge-institutes

Regional governments






Companies



I amsterdam®



Key objectives for 2025

- **Improving security of supply of resources** by reducing the import of raw materials with 30% 
 - **Redesigning min. 20 product-/material chains** 
 - **High value recycling** of at least 40 priority resource streams (on average: recycling rate of 90%) 
 - **Creating at least 3600 new jobs**, 150 start-ups and 480 million extra turn over 
 - **Decreasing environmental burden** by 35% average 
-

The circular economy has interfaces with the four other challenges of the MRA

amsterdam economic board

amsterdam
economic
board

Talent for the future

- Creation of new jobs for high and low skilled labour

Mobility

- Zero emission mobility via electricity and hydrogen

Digital connectivity

- Disruptive digital technologies trigger the circular economy
- Recycling of servers
- 'Greening of IT' and 'greening by IT'

Health

- Environmental benefits go hand in hand with health improvement

I amsterdam®

More information?



Jacqueline Cramer

Dominique van Ratingen



020 524 1120



j.m.cramer@uu.nl

d.vanratingen@amecboard.com