Circular economy in the Nordic Baltic Region

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Rijkswaterstaat
Ministerie van Infrastructuur en Waterstaat

Towards Circular Textiles

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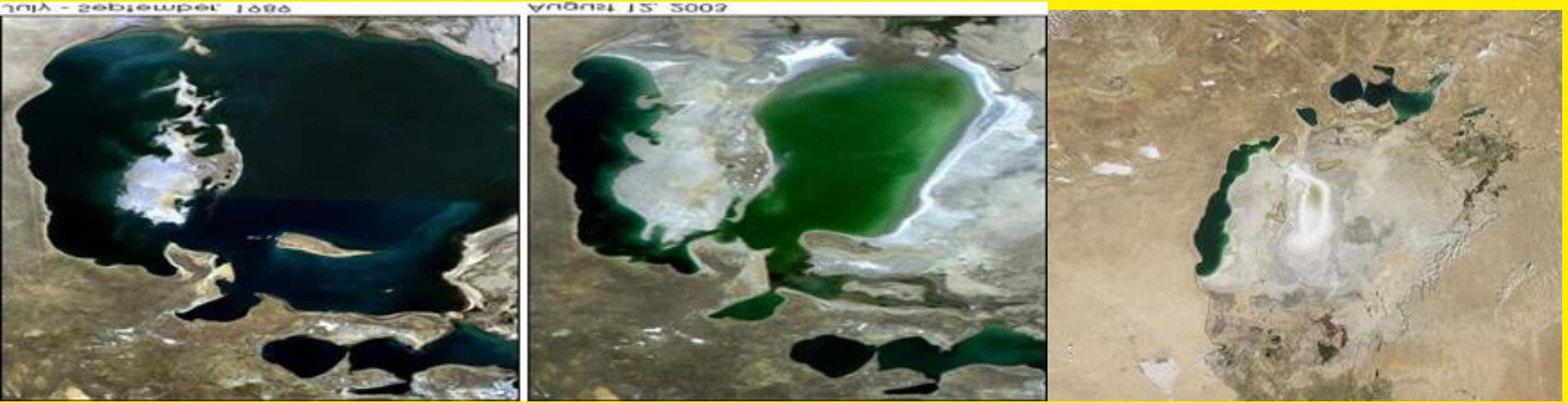
Some figures and facts

- 16 miljard kilo of textiles end up as waste in Europe
- Majority incinerated
- The environmental impact of textiles is significant;
- To make 4 T-shirts or 1 pair of jeans we need 2,5 kilo pesticides + 10.000 litre water
- For the dyeing process approximately 100 litre water necessary to dye 1 kilo of textiles
- 6.500 billon liter heavily polluted water yearly dumped by the textile industry
- Textile industry is responsible for 25% of all water pollution (f.e. Lake Aral)
- Social conditions are in general very bad (f.e. Rana Plaza)

Lake Aral

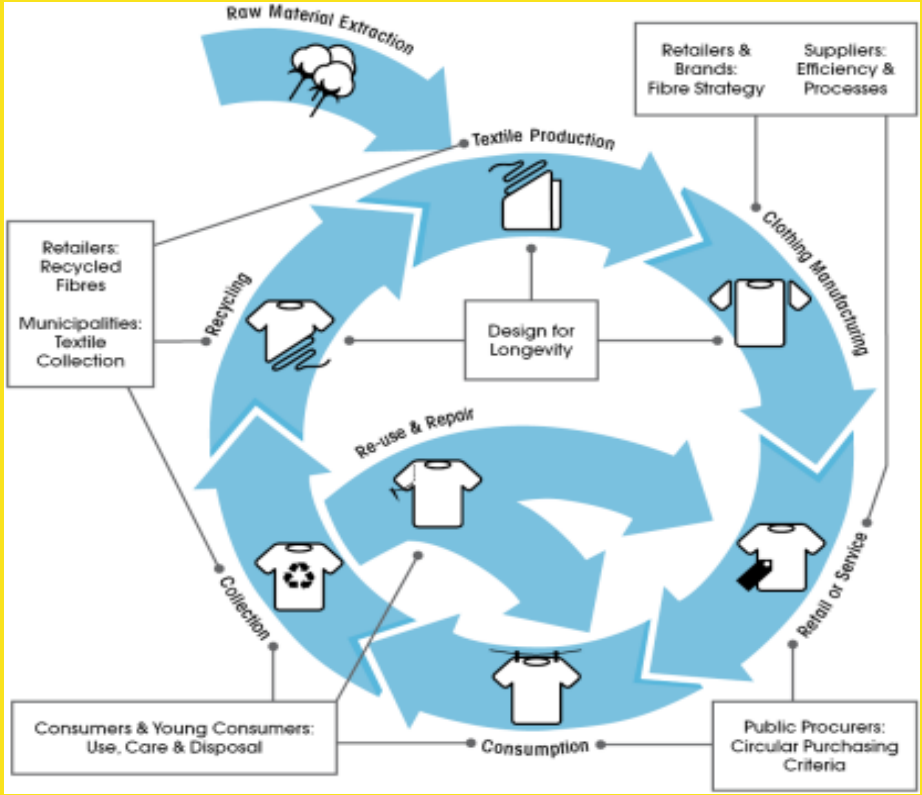


Main barriers for circular textiles

- Many stakeholders, little influence possible on the production part of the cycle
- Prices for non-re-usables are low and often can't pay for transport > find their way to down cycling, e.g. industrial rags, low grade blankets, incineration
- Demand is low, lack of available fibres and garments
- Suppliers can not deliver a continues production nor the right amount/volume
- Fast fashion claims customers don't ask for circular textiles and are not encouraged by governments
- To little demand to make investments interesting, nor is it interesting to invest in recycling technologies

What can governments do?

- Policy
- Legislation
- Collaboration
- Fiscal (EPR)
- Regulatory (Certification)
- Public Procurement
- Public campaigns



The Dutch approach

Policy:

- Transition Agenda
- ERP
- Public Procurement
- Stimulate collection of used textiles

Collaboration

- Green deal
- Textiles covenant
- NTA (Normative Technical Agreement)

Policy: Transition agenda


Ondertekening grondstoffenakkoord

- By 2050: 100% circular
- By 2030: 50% reduction in use of primary raw materials
- "Raw materials agreement": 400 organizations endorsed these goals
- Transition agendas for 5 priority chains:
  - Biomass and Food
  - Plastics
  - Manufacturing industry
  - Construction sector
  - Consumer goods

Collaboration

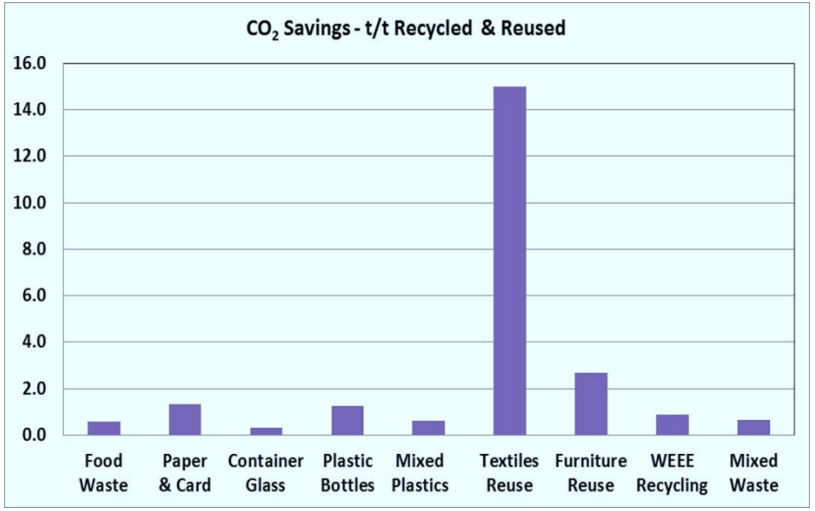
- Green deal
- Textile covenant; +/- 80 companies agreed to:
  - Make textiles and fashion more sustainable
  - Improve social conditions in production
  - Create transparancy in their supplier chain
  - Communicate about the results

The power of Public Procurement

- Buying power
- Promote circular innovation
- Leading example
- Decreasing environmental impact

Investing in circular workwear pays off

- High environmental impact
- Economical benefits;
  - ✓ less costs for incineration
  - ✓ financial benefits from return flow
- Chances for (local) social impact
- Opportunities for (local and national) economic growth



Category management

- Dutch government has ca. 85.000 employees using workwear
- Anual costs +/- € 22 million
- Centralising demand and procurement creates:
  - Volume
  - Uniform (sustainability) targets
  - Management and centralised knowledge
- Plan of action with strategy and targets for middle and long term

Recycled fibres workwear Dutch army

What did we ask for?

- Agreement for four years
- Delivery of overalls, towels, wash clothes, handkerchiefs and shawls
- Containing recycled cellulosis textiles material (recycled cotton)

What did we do?

- **Market consultations with suppliers**

- **Tender requirements:**
  - Min. 10% recycled post consumer textiles content (knock-out criterion)
  - Reward extra % recycled post consumer content
  - Reward transparancy

- **Less technical requirements in detail** (like pilling)

What did we get?

- **Towels and washcloths**
  - Two offers and a contract for the supply of 100.000 towels and 10.000 washcloths
  - Containing 36% recycled post-consumer textiles fibres
- **Overalls**
  - Three offers and a contract for the supply of 53.000 overalls
  - Containing 14% recycled post-consumer textiles fibres
- **Handkerchiefs and shawls**
  - No offers
- **Next: Focus on recycled cotton and if not then organic**.

Since 2018 several suppliers offering circular textiles

Schijvens Textiles:

- First client Stayokay:
  50% post consumer + 50% recycled pet
- Already 10 customers for workwear
  with recycled content
- New business model with new services as
  organizing the return flow

HAVEP

- Production for workwear made with fibres from recycled textile.
- First steps towards chemically recycled cotton where trousers are made of 100% post-consumer recycled cotton

Results (indication 2017-2018:

- Water savings: 12.564 m3
- Energy savings: 25.403 kWh
- CO2 reduction: 2.0 tonnes
- In 2018 at least 2.3 tonnes of discarded textiles both post en pre-consumer were saved from incineration.

Challenges

Procurers:

- How to control % recycled content
- Guarantees for quality
- Enough volume?
- Enough suppliers?
- How to compare different offers?

Suppliers:

- Find new producers of cloth with recycled post consumer material
- Find the right mixture of recycled post consumer material with the same quality and comfort as usual.
- High transport costs and import duties
- How to compensate the higher costs?
- How to develop a new business model

Generate content for recycling

- **Organise a return flow**

- **Benefits:**

- In general there is a system available for registration and issuance of uniforms
- No expenses on incineration
- Re-use of clothing
- Revenues of selling not re-usable clothing
- Sorting process creates jobs and can contribute to local social workplaces

- **Costs:**

- Laundry, logistics, repairing

How to organise a returnflow?

- Ministry of Defence started collecting discarded workwear at army barracks
- Sorting for reuse at social enterprise for people with distance to labor market
  - What can be reused immediately?
  - What can be repaired and reused?
  - How to sort?
- Investigation in what can be collected for recycling

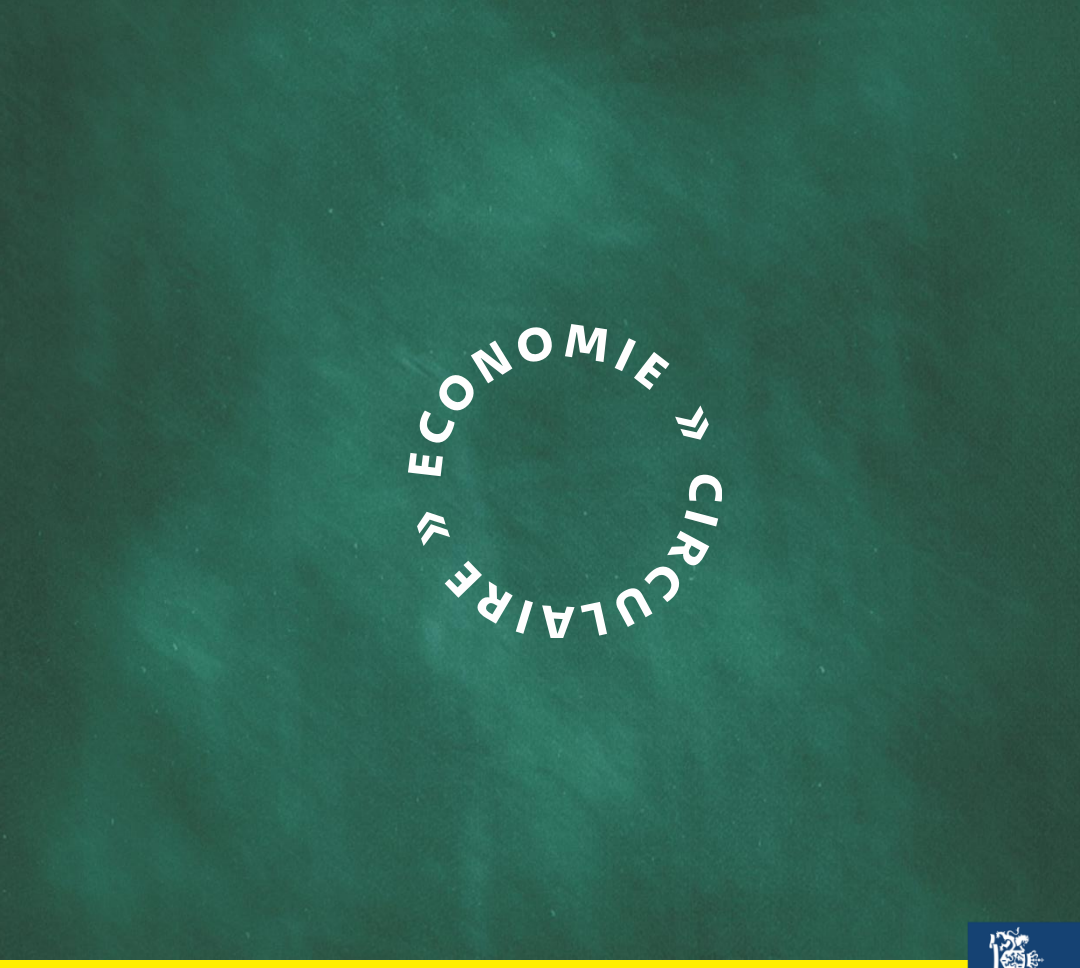
Organizing a returnflow

What did we get?

- A contract for the collection and sorting of 750.000 end-of-life items per year
- Awarded to Biga group, a social enterprise
- Social, economic and environmental benefits
- Costs: € 1,5 million / year
- Avoided costs : € 10 million / year

Conclusions

- Collaboration works, make agreements with the industry
- Use your power as governments to influence and stimulate circularity
- Start small and easy
- Start!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