



CIRCULAR ECONOMY CONFERENCE

*TRANSITION OF THE BUSINESS SECTOR TO A
CIRCULAR ECONOMY: ROLE AND OPPORTUNITIES*

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MADRID

DECEMBER 11, 2019

HOLLAND CIRCULAR HOTSPOT

DUTCH CIRCULAR SOLUTIONS FOR GLOBAL CHALLENGES

Companies



EXPORT PRODUCTS
AND SERVICES

Knowledge
Institutes



EXCHANGE
KNOWLEDGE
AND INNOVATION

Government
Cities



EXCHANGE
GOVERNMENTAL
BEST PRACTICES



HCH connects and accelerates the transition to a CE

SHARING INNOVATION

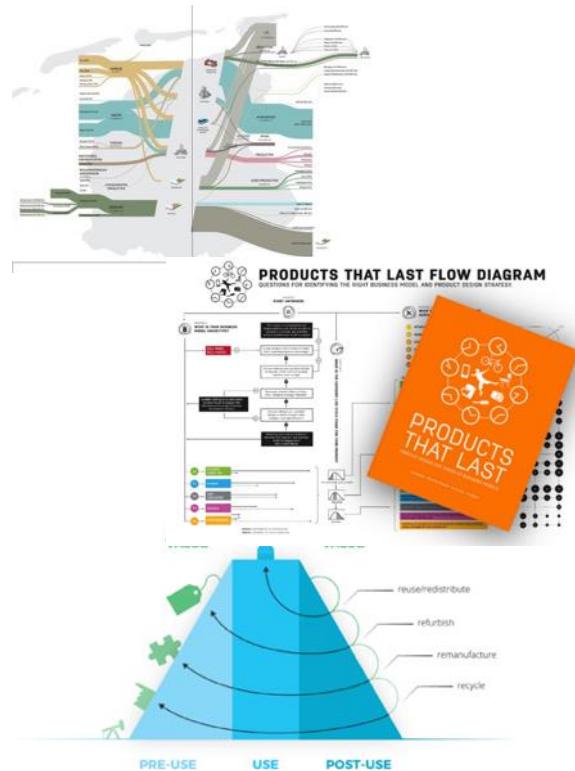


SHARING BEST PRACTICES: B2B, K2K & G2G

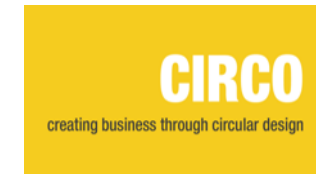
B2B: BUSINESS CIRCULAR PRODUCTS & SERVICES, TRANSITION AGENDA



K2K: THEMATIC TOPICS, BUSINESS MODELS, INSIGHTS & TOOLS, WHO IS WHO, MOOCS



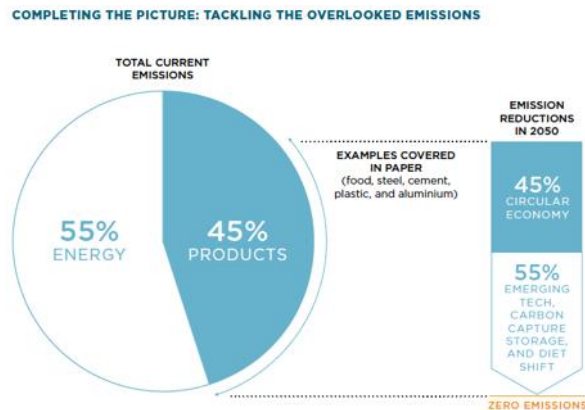
G2G: POLICIES & INSTRUMENTS THAT CREATE FERTILE GROUND FOR CE



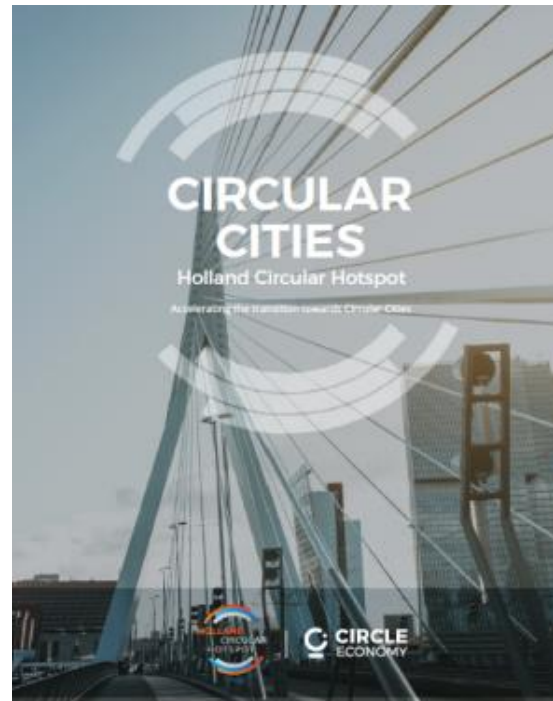
SPECIAL TOPICS

LINKING CIRCULAR ECONOMY TO OTHER KEY DRIVERS WITH LOCAL RECOGNITION

CE AND CLIMATE CHANGE (2019)



CIRCULAR ECONOMY IN CITIES: MAKING THEM SMART, SUSTAINABLE AND RESILIENT (2018)



CE AND THE SDG'S: A SYNERGETIC APPROACH (2019)



HCH IS PREPARING INFOGRAPHICS FOR COP25

SEE THE HCH & CIRCLE ECONOMY REPORT ON CIRCULAR CITIES
<https://hollandcircularhotspot.nl/en/news/circular-cities-brochure-out-now/>

A RVO-HCH REPORT IS EXPECTED END OF 2019

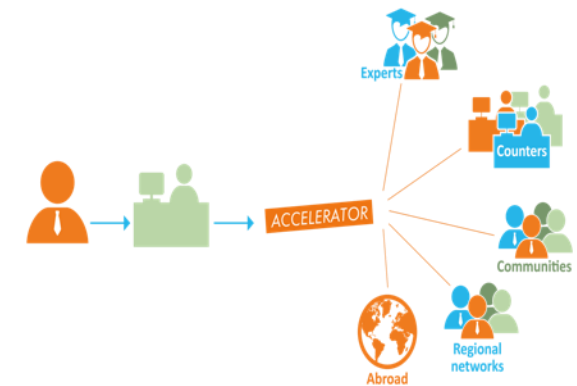
SHARING INNOVATION



BUILDING A CE HOTSPOT NETWORK IN EUROPE & BEYOND

EVENTS - SHARING BEST PRACTICES & INSIGHTS – CE OFFER & DEMAND - ADVOCACY

Hotspots/Hubs are local (public-private) “coalitions of the willing”
Catalysts for circular action



CIRCULAR NORWAY



THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Economy



Institut National de l'Economie Circulaire

Circular Change



EUROPE MAP

WITH COUNTRIES



Croclenet



Lifestyle & Design Cluster

POLISH CIRCULAR HOTSPOT

NETO CIRCULAR ECONOMY

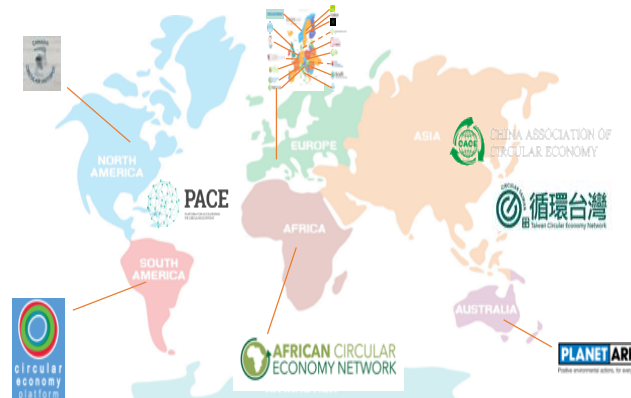
MINISTRY OF ENVIRONMENT OF THE SLOVAK REPUBLIC

bcsdh

ICESP

ICESP

ICESP



SHARING INNOVATION

INVOLVE BUSINESSES FROM THE START

THE BUSINESS PERSPECTIVE IS KEY FOR SCALING UP!

- **Entrepreneurs (big and small) are the main actors of a transition to a Circular Economy**
 - They show guts, take risks, invest and accelerate

Entrepreneurs can't do it alone

- (Local) government should set the ambition (urgency), set boundary conditions and allow for experimentation.
- Knowledge institutes develop new insights, enable valorisation of their knowledge and create awareness.
- Involvement of the new generation, the leaders and consumers of tomorrow, is crucial!

WHY

Business as usual is not an option
Four Business drivers

1

More revenue

2

More value

3

Less risks

4

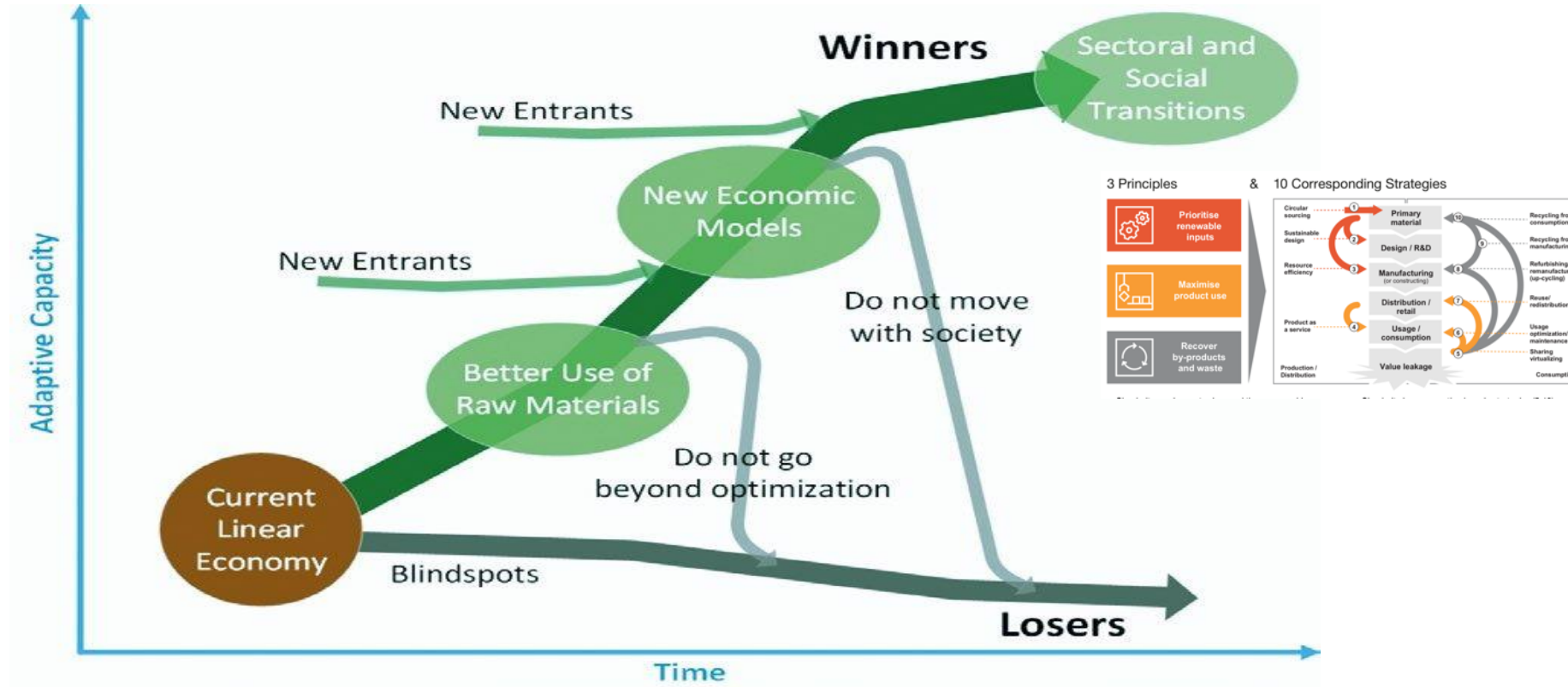
Less costs



WE ARE AT THE BEGINNING OF A TRANSITION TOWARDS A CE

A TRANSITION WITH WINNERS AND LOSERS

DON'T WASTE TIME: LEARN FAST, FAIL FAST



Courtesy: Drift, Erasmus University

SHARING INNOVATION



CIRCULAR BEST PRACTICES

PLASTICS

AGRO-FOOD

CONSTRUCTION

TEXTILES

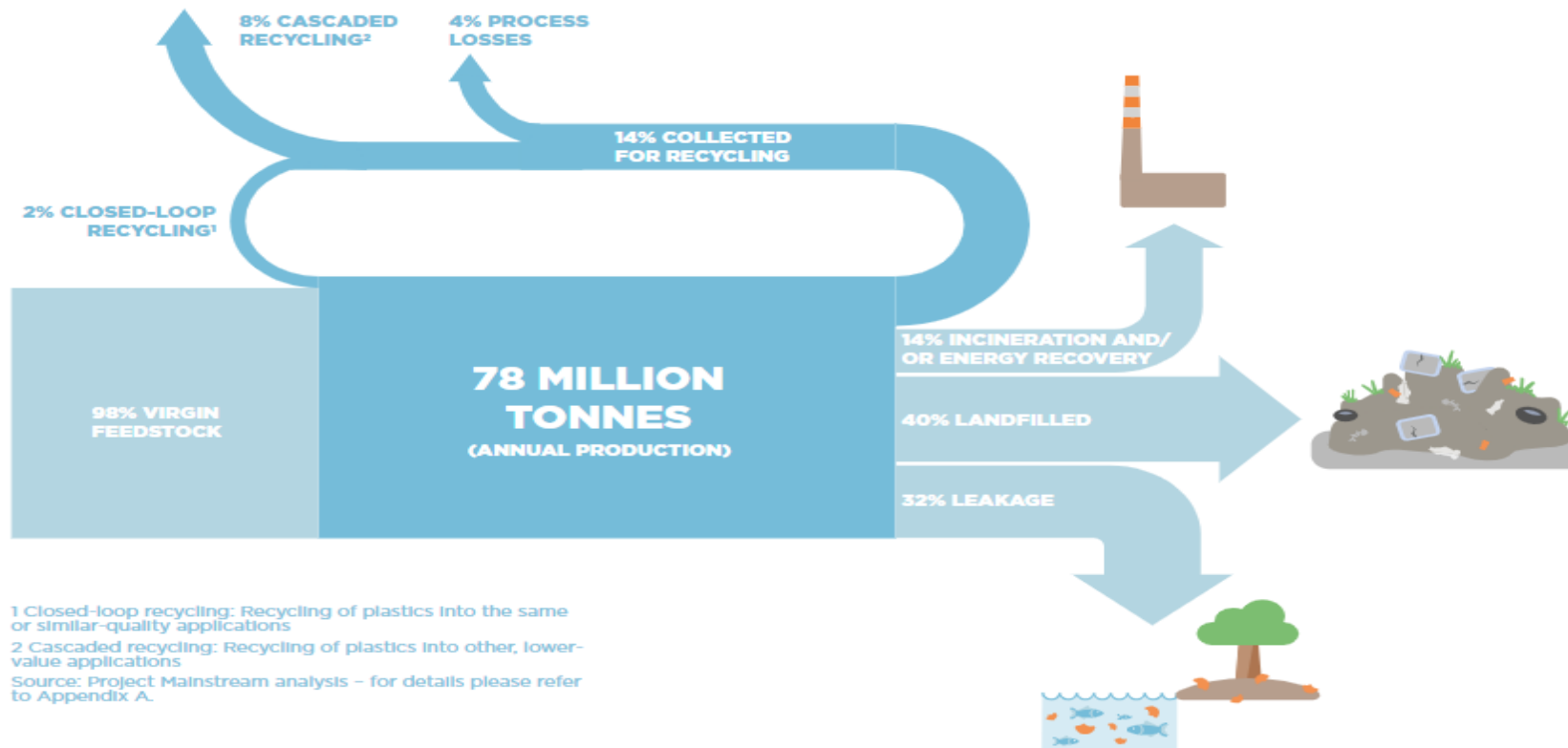
Do you want more inspiration: <https://hollandcircularhotspot.nl/en/cases/>

PLASTIC PACKAGING

CURRENT VALUE CHAIN

Without a profound change in industry practices, the plastics sector could account for 15% of the global annual carbon budget by 2050
WRI & New Climate Economy 2018

FIGURE 4: GLOBAL FLOWS OF PLASTIC PACKAGING MATERIALS IN 2013

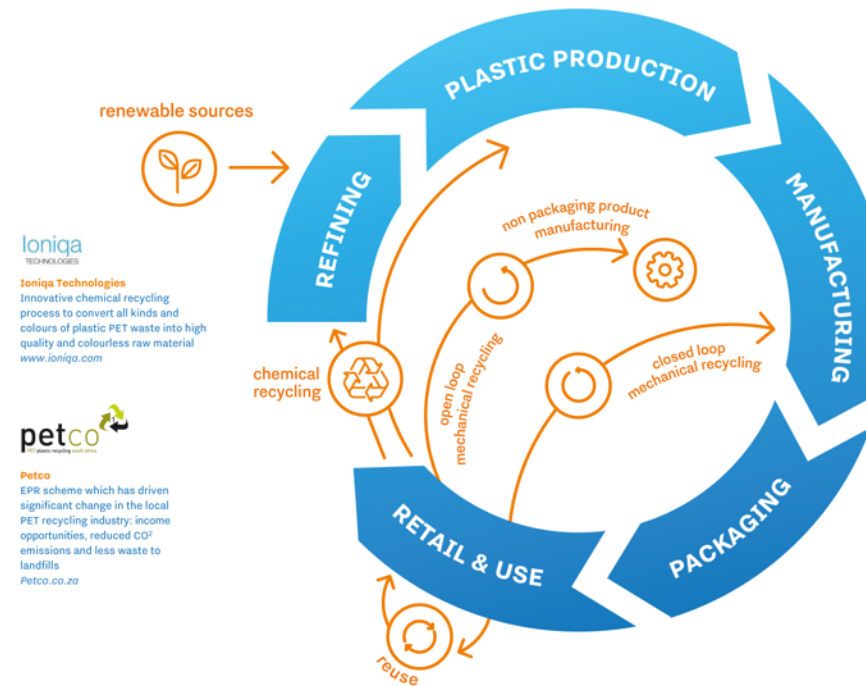


Ellen MacArthur Foundation: the New Plastics Economy (2016)

CIRCULAR LOW CARBON FUTURE

EXAMPLES OF CIRCULAR BEST PRACTICES IN PLASTICS

- Recycling 15 million tons of plastics per year by 2030 (equivalent to about half of the projected plastic waste generation) would save CO2 emissions equivalent to taking 15 million cars off the road (European Commission, 2018)
- For at least 20% of plastic packaging, reuse provides an economically attractive opportunity (EMF, 2017)
- With concerted efforts on design and after-use systems, recycling would be economically attractive for 50% of plastic packaging (EMF, 2017)
- Globally, replacing just 20% of single-use plastic packaging with reusable alternatives offers an opportunity worth at least USD 10 billion.(EMF, 2019)



loniqa
TECHNOLOGIES
loniqa Technologies
Innovative chemical recycling
process to convert all kinds and
colours of plastic PET waste into high
quality and colourless raw material
www.loniqa.com

petco
petco
EPR scheme which has driven
significant change in the local
PET recycling industry: income
opportunities, reduced CO₂
emissions and less waste to
landfills
Petco.co.za



**Modulo Resource and Recovery
Centres – Modular environmen-
tal waste depots**
Modulo develops and produces
innovative, modular and circular
environmental waste sites.
modulo-milieustraten.nl/



Loop
Loop is a new store system and
model for the reuse of packaging,
which arose from the collaboration
between TerraCycle and major
brands such as Unilever, Mars,
Coca Cola, Danone and Jacob
Douwe Egberts
loopstore.com



**P&G launched the Fairy Ocean
Plastic Bottle made completely
from post-consumer recycled
plastic and ocean plastic**
Us.pg.com

Based on elements from the Ellen MacArthur Foundation: the New Plastics Economy (2016)

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SHARING INNOVATION



BUSINESSES CAN INNOVATE AND SCALE UP IF A FRAMEWORK FOR ACTION IS SET



MODULO UPCYCLE CENTRE

An aerial photograph of the Modulo Upcycle Centre, a modular waste management facility. The facility consists of several large, rectangular, light-colored modular units arranged in a U-shape. A red and white striped barrier is positioned at the entrance. To the left, a long row of red modular units is visible. In the center, a black van and a dark car are parked. To the right, a pink car and a silver car are parked. Further right, a blue and red modular unit is visible. The facility is situated in an open area with a paved ground. In the background, there is a road, a canal, and some trees.

The flexible construction method enables the waste site to be adapted, relocated and reused over time

www.modulo-milieustraten.nl

A high-angle, wide shot of a complex industrial facility, likely a waste sorting plant. The structure is composed of numerous levels of grey metal walkways, railings, and conveyor systems. Large, bright orange sorting machines and chutes are prominent throughout the scene. In the lower right foreground, a conveyor belt is visible, carrying a stream of discarded plastic waste, including white and yellow fragments. The entire facility is housed within a large building with grey corrugated metal walls and a high ceiling. The lighting is bright and even, highlighting the intricate machinery and the organized chaos of the industrial environment.

SUEZ

The automated high-tech sorting centre in Rotterdam sorts large volumes of waste and improves plastic waste recycling

www.suez.nl



QCP

50 / 50
Joint Venture



lyondellbasell
Advancing Possible

Uses post-consumer plastics to produce Quality
Circular Polymers (QCP)

www.qcpolymers.com



GREENTOM

For the frames and fabrics of the Greentom stroller
Greentom partners with QCP to use polypropylene and PET
of post-consumer plastics

www.greentom.com





CIRCULAR BEST PRACTICES

PLASTICS

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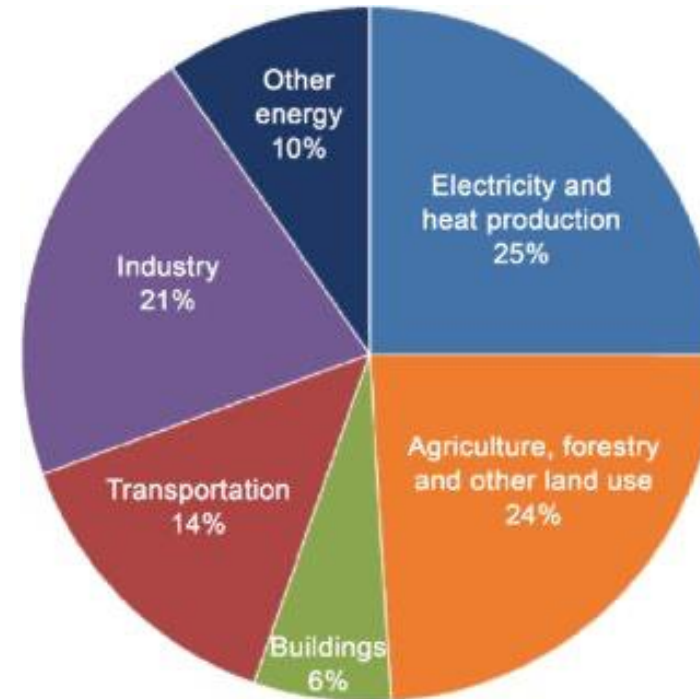
TEXTILES

Do you want more inspiration: <https://hollandcircularhotspot.nl/en/cases/>

AGRO-FOOD

CURRENT VALUE CHAIN

- Agriculture, forestry and land-use change contributed around 20 to 25% of global annual emissions in 2010 (IPCC Second Assessment Report 2014)
- By 2050, without a global shift, agriculture and associated changes in land use could consume 70% of the total GHG budget consistent with limiting global warming to 2°C.
- (Unlocking the inclusive growth story (The New Climate Economy, 2018)
- Global food loss and waste has a carbon footprint of 4.4 gigatons of CO₂ eq per year. If it were a country it would rank as the 3rd top emitter after the United States and China (FAO 2015)



Source: Influence of tribology on global energy consumption, costs and emissions (2017)

https://www.researchgate.net/figure/Global-greenhouse-gas-emissions-by-economic-sector-10_fig2_319583446

CIRCULAR LOW CARBON FUTURE

EXAMPLES OF CIRCULAR BEST PRACTICES IN AGRO-FOOD

- In a Circular agro-food system we can use the current available agricultural land to provide the growing population with food
- In Circular Agriculture the waste streams of one can be the raw materials for another. Achieving this kind of circular agriculture system will require smart integration between plant-based and animal-based supply chains.
- Circular economy strategies could reduce emissions by 5.6 billion tonnes CO₂e, corresponding to a 49% reduction in the projected 2050 total food system emissions (EMF Cities and Circular Economy, 2019)
- Achieving this means shifting to more nature-enhancing farming systems and making more effective use of the food that is produced.



Based on elements from the Ellen MacArthur Foundation: the New Plastics Economy (2016)

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SHARING INNOVATION



PROTIX – INSECT BASED PROTEIN PRODUCTS



Smarter protein production with food leftovers provides an answer to increasing food and feed demands

THE VEGETARIAN BUTCHER



Creating a plant based meat substitute to satisfy the meat lover

www.thevegetarianbutcher.com

SURPLUS FOOD FACTORY – SALVAGES FOOD WASTE

In the Netherlands, food waste accounts for 3.5 percent of greenhouse gasses and adds to household and industrial waste

www.deverspillingsfabriek.nl/en

THE WASTE TRANSFORMERS

Transforming organic waste into green energy, water, fertiliser and raw materials for paper and textile

www.thewastetransformers.com





CIRCULAR BEST PRACTICES

PLASTICS

AGRO-FOOD

CONSTRUCTION

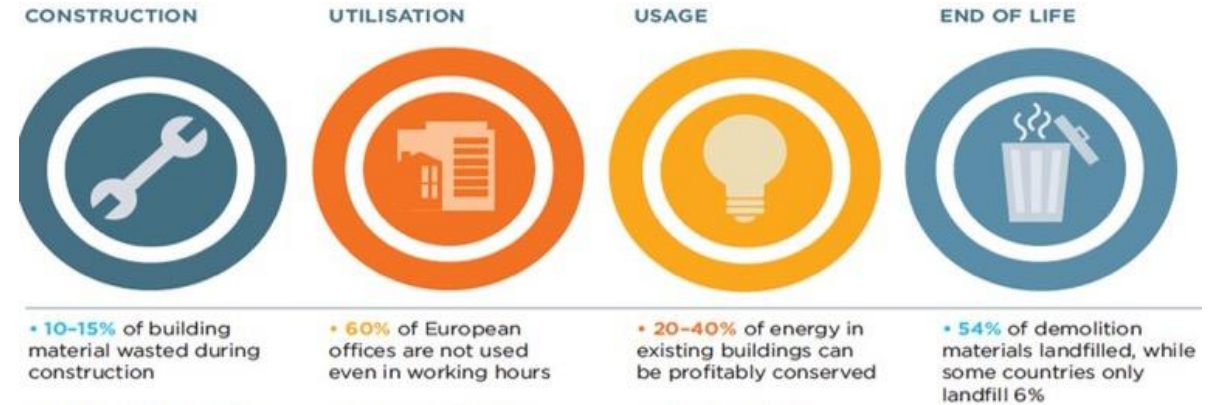
TEXTILES

Do you want more inspiration: <https://hollandcircularhotspot.nl/en/cases/>

THE BUILT ENVIRONMENT

CURRENT VALUE CHAIN

- The built environment represents 30% of the world's emissions. (Centrica 2019)
- Today, concrete is responsible for 9% of total greenhouse gas emissions (OECD 2018)
- Two-thirds of the commercial and high-rise residential buildings that will exist by 2030 have yet to be built (NRDC-ASCI Constructing Chang, 2012)

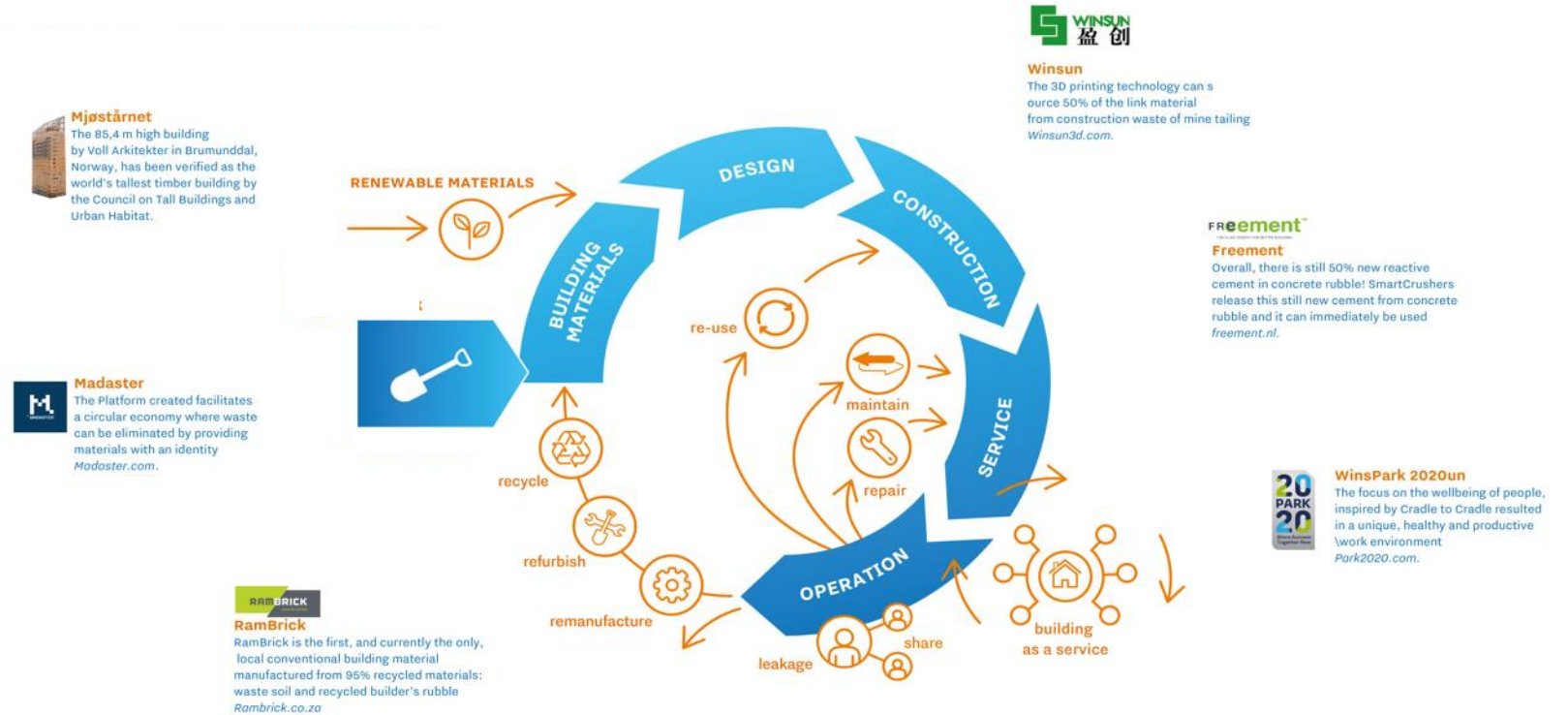


Growth within:
A circular economy vision for a competitive Europe (EMF 2015)

CIRCULAR LOW CARBON FUTURE

EXAMPLES OF CIRCULAR BEST PRACTICES IN THE BUILT ENVIRONMENT

- It is possible to save materials by reducing over-specification; as much as 50% of steel used in buildings is in excess to what is strictly required to meet structural needs (Material Economics 2018)
- Material use for buildings can decrease by 30% as they are used more efficiently providing a potential abatement of 55 Mt of CO2 (Material Economics 2018)
- Vision on the built environment: smart, modular, energy positive buildings in a liveable urban environment



MADASTER – MATERIAL PASSPORT



*Madaster
Launch*

*Amsterdam
17-02-17*

Using material passports, we can reuse building materials and eliminate waste

www.madaster.com/en

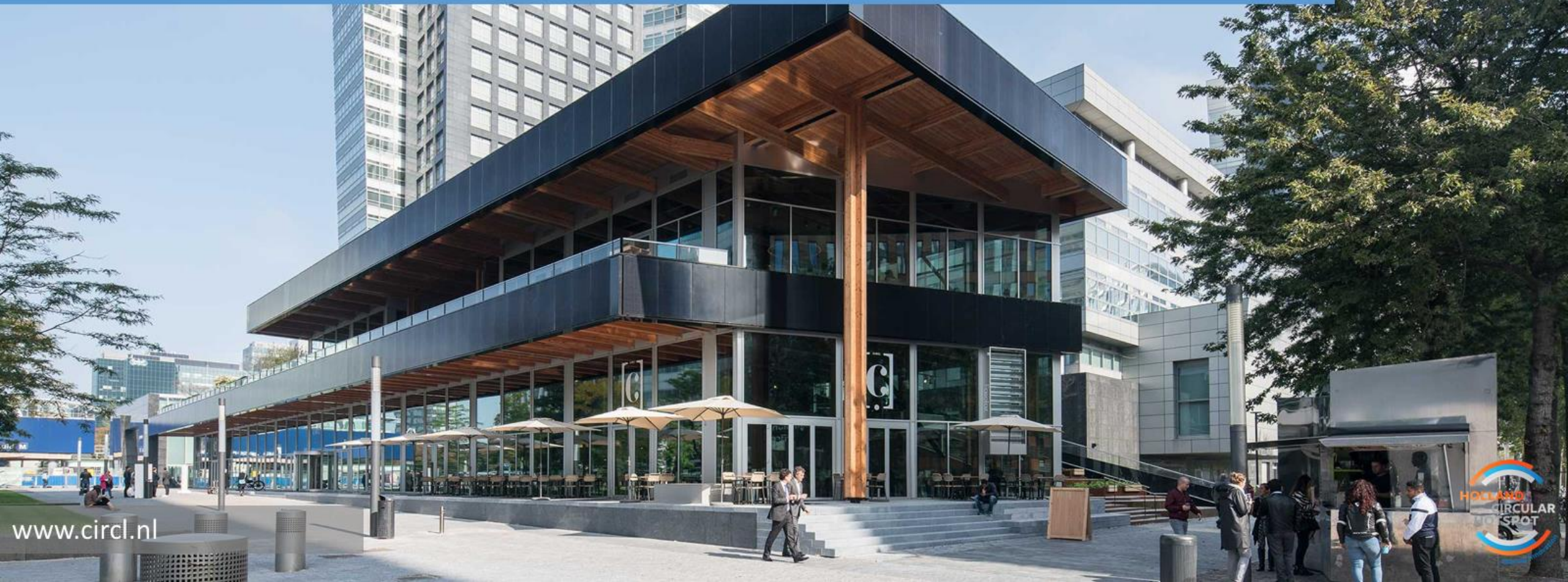
PARK 2020 - INDUSTRIAL PARK

The image shows a bright, modern interior of an industrial park. A prominent feature is a wide staircase with red steps and glass railings, leading to an upper level. The space is characterized by white walls, large windows, and a high ceiling. In the background, there's a large circular mural on the wall. To the right, a vertical garden with various green plants is visible. The overall atmosphere is clean, bright, and professional.

The focus on the well-being of people , inspired by Cradle to Cradle, resulted in an inspiring, healthy and productive work environment

CIRCL – CIRCULAR PAVILLION

Many construction parts are made of second life materials. The wooden framework and other part are constructed for optimal re-use



SMARTCRUSHER – CONCRETE RECYCLING



Recovered cementstone can be reused directly
CO₂-free in the production of new concrete

www.slimbreker.nl



CIRCULAR BEST PRACTICES

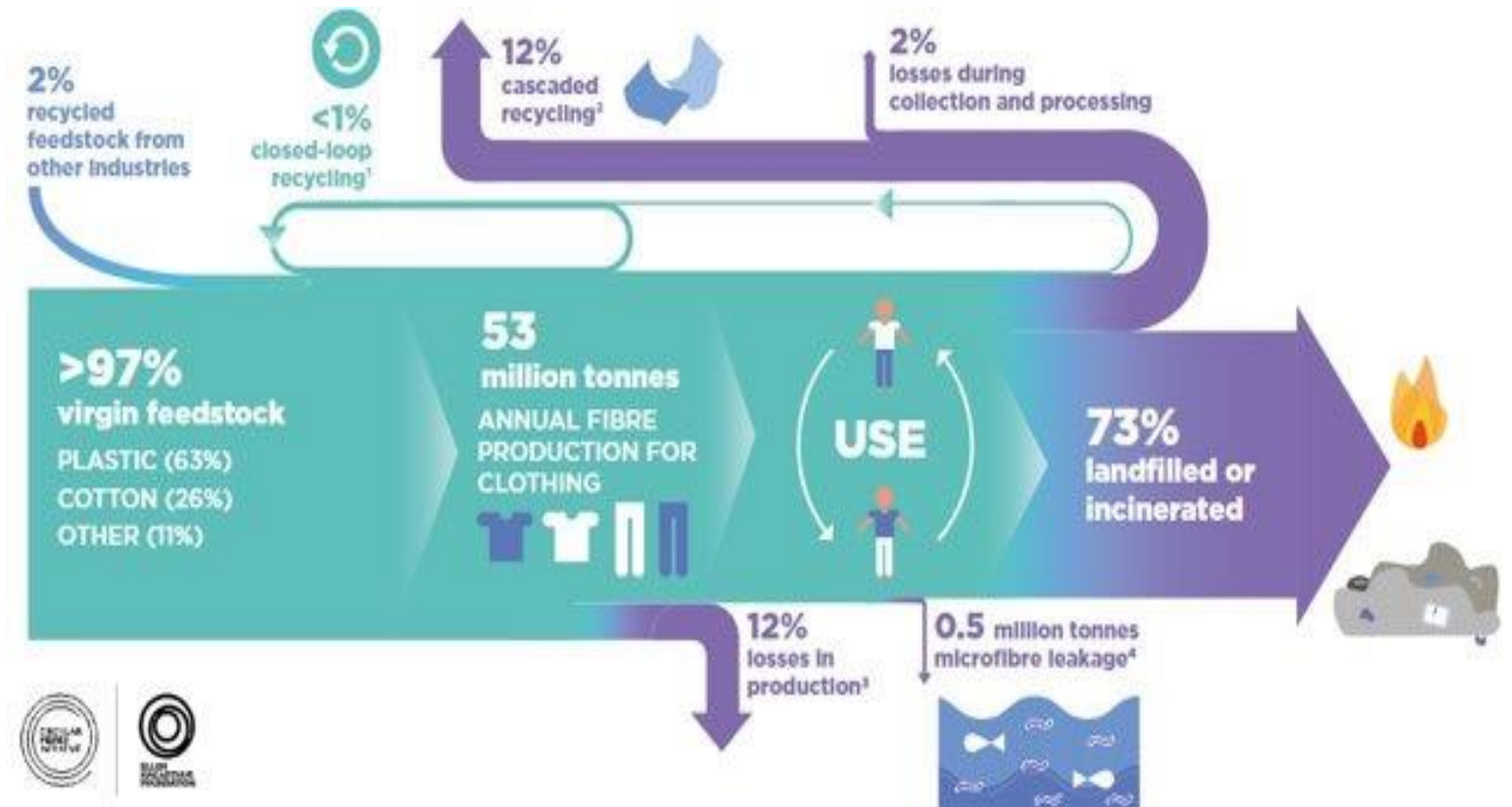
PLASTICS
AGRO-FOOD
CONSTRUCTION
TEXTILES

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TEXTILES AND APPAREL

CURRENT VALUE CHAIN

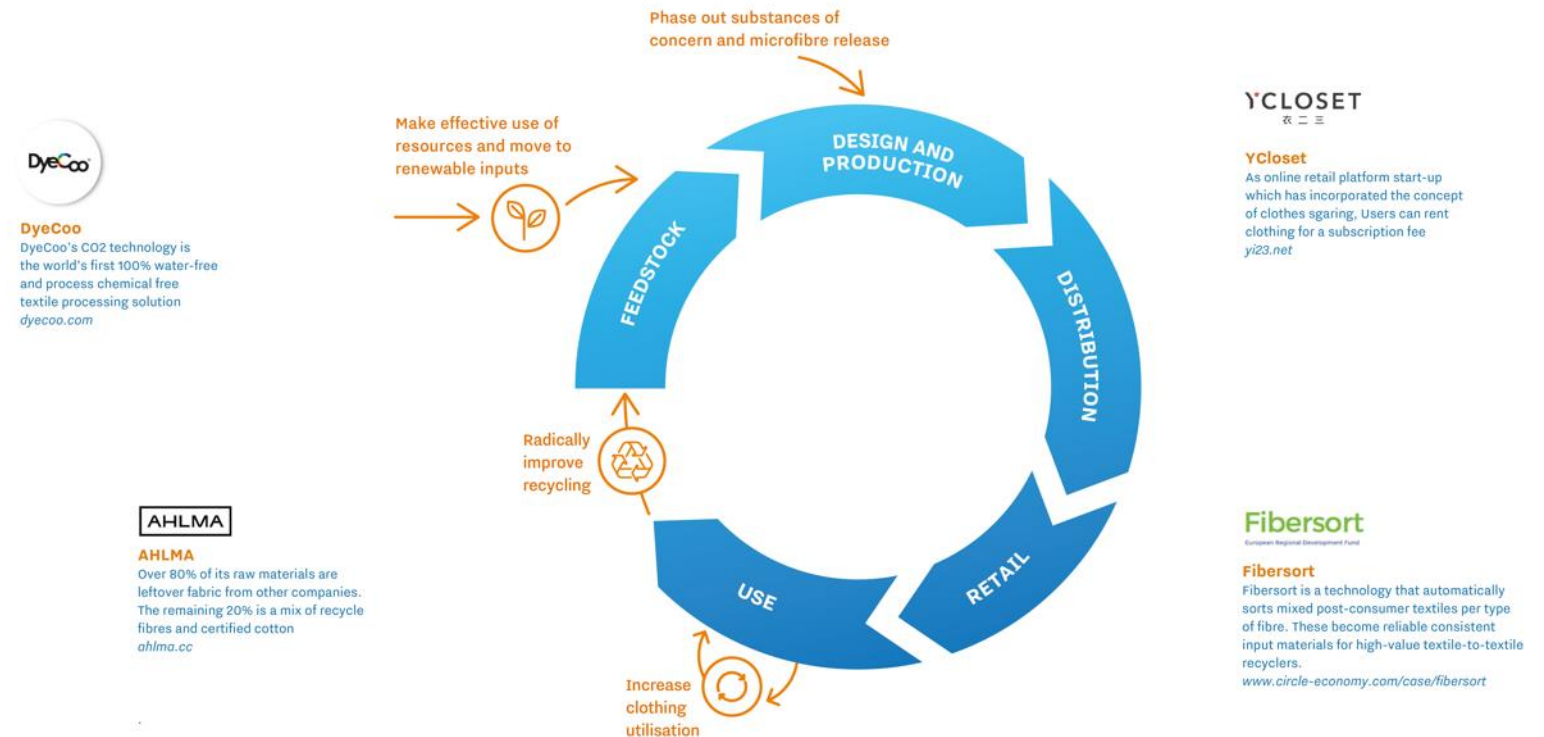
- Textile manufacturing alone emits 1.2 billion tons of GHG annually, an equivalent of 230.000 wind turbines working for a year (Ellen MacArthur Foundation 2017)



CIRCULAR LOW CARBON FUTURE

EXAMPLES OF CIRCULAR BEST PRACTICES IN TEXTILES AND APPAREL

- Polymer fiber, made with agricultural feedstocks, provides a 30% CO2 reduction while its manufacturing process reduces GHG emissions by 63%, compared to conventional nylon made from petroleum (Minakshi 2017)
- Doubling the useful life of clothing from one year to two years reduces emissions over the year by 24%, while reducing the longevity of a shirt from one year (50 uses) to only 1 month (4 uses) increases emissions over the year by around 550% (Carbon Trust 2011)



Based on Ellen MacArthur Foundation: A new textiles economy and iny.cc/fibres

DRAFT

DYECOO: THE WORLD'S FIRST WATER-FREE AND PROCESS CHEMICAL-FREE DYEING SOLUTION

**THE NEW
STANDARD**

DyeCoo®

**ZERO
WATER**

Only
recycled
CO₂

**PURE
DYES**

100%
process
chemicals

**ZERO
WASTE**

Clean
process

DUTCH SPIRIT - TAILORED SUITS

Suits of 100% recyclable fabric are sold with a deposit or leased and taken back for responsible reuse or recycling

www.dutchspirit.com

FIBERSORT – TEXTILE SORTING

A large pile of mixed post-consumer textiles, including various colored and patterned fabrics, is shown on a green conveyor belt. The pile consists of many different items, such as t-shirts, jeans, and socks, in various colors like white, blue, red, and grey. The background shows a dark industrial setting with some structural elements.

Automatically sorting of mixed post-consumer textiles solves a major bottleneck in textile recycling

www.circle-economy.com/case/fibersort

CONCLUDING REMARKS

- Circular Economy is happening today
- Front-running businesses are embracing it
- It is happening in developed and developing countries
- It is an opportunity, it is about future markets and continuity
- We need to scale up fast, but businesses can't do it alone
- We need involvement of all actors

AFRICAN PROVERB

*“IF YOU WANT TO GO FAST GO ALONE,
IF YOU WANT TO GO FAR GO TOGETHER”*



JOIN THE GLOBAL CIRCULAR COMMUNITY

www.hollandcircularhotspot.nl

info@circularhotspot.nl