Expanding the Circular Economy Business Models

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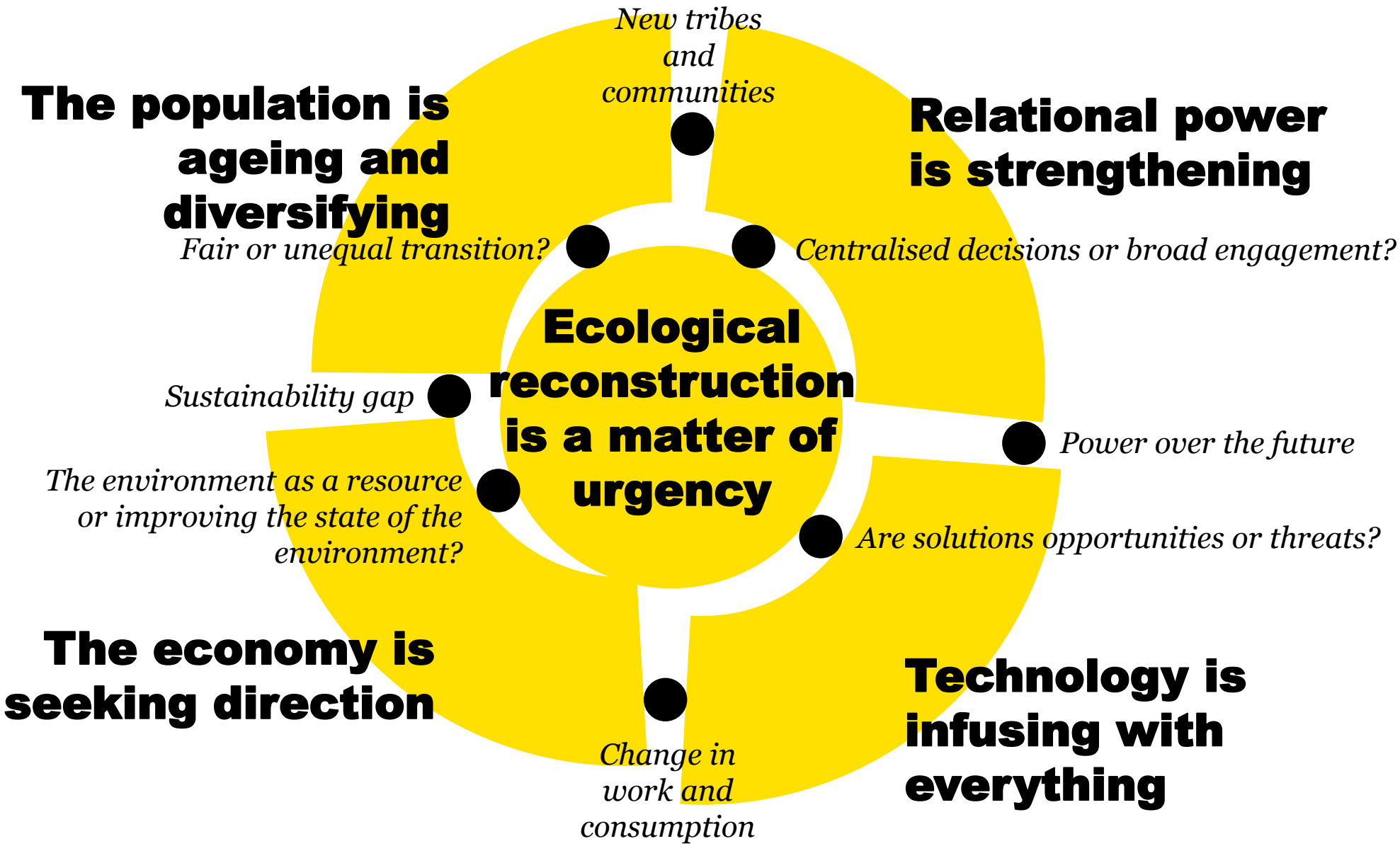
5 important things

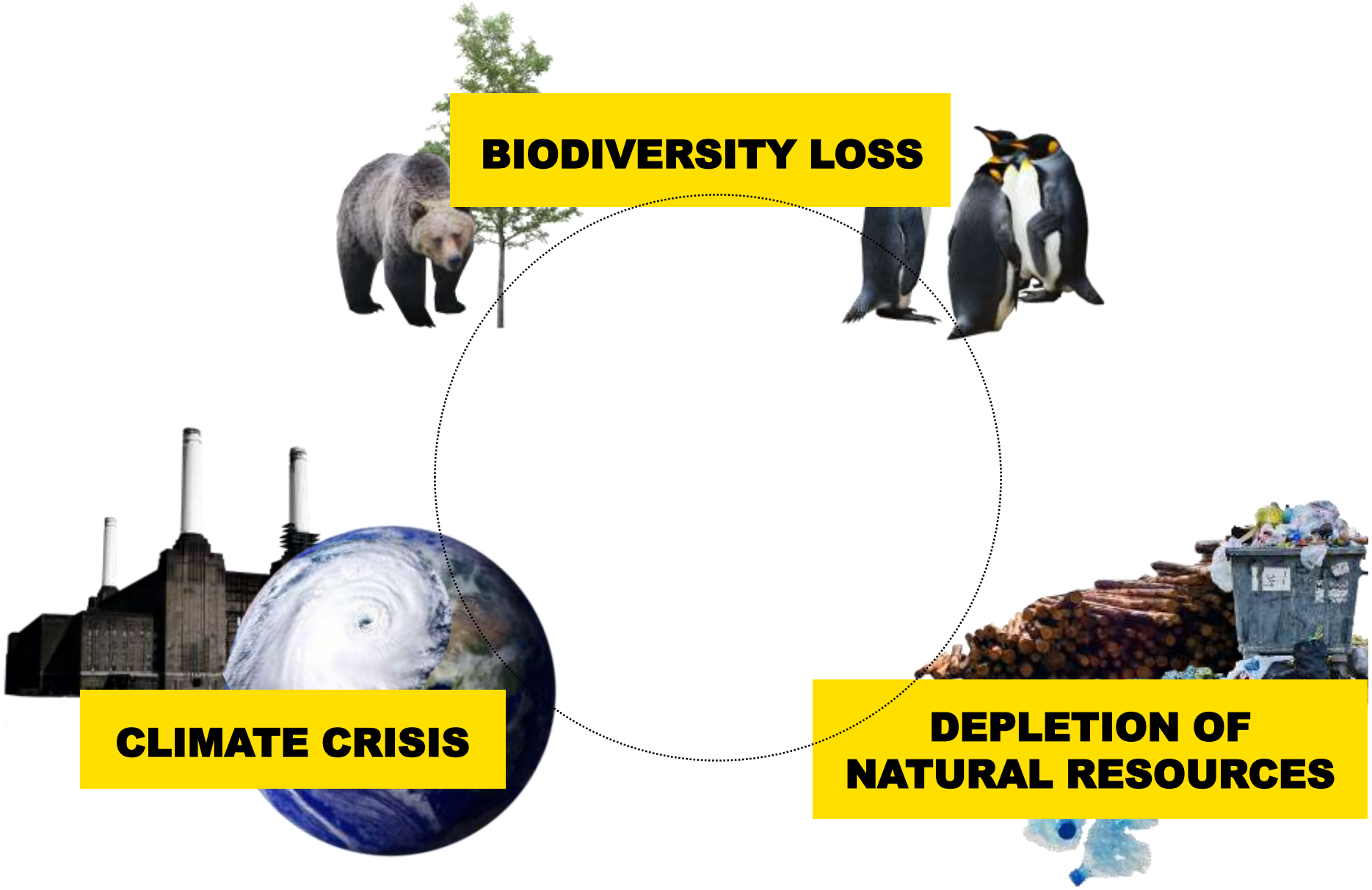
1. A gift from Parliament to the 50-year-old Finland
2. An independent future fund
3. Mission: to develop the successful Finland of tomorrow
4. Funded by returns
5. Three themes and hundreds of projects

+ the most important of all

Building our future *together*.

How do we guarantee
a fair future for everyone
if the only thing we know for sure is that everything will change?

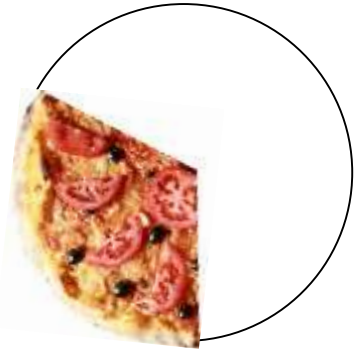




On average, materials in Europe are used only once.

One third of plastic waste collected in Europe is recycled.

Out of recyclable chemical industry products, only one third were recycled in Europe in 2018.



One third of food
ends up in the trash bin.

I wouldn't mind a circular food system.

Sources: EMF 2015, Eurostat 2018, Circular Economy Playbooks for Chemical Companies 2020, UN FAO

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The circular economy aims to optimise the system as a whole and tackle the root causes of biodiversity loss, climate change and depletion of natural resources.

90%

OF LAND-USE CHANGE DRIVEN BIODIVERSITY LOSS IS CAUSED BY RESOURCE EXTRACTION AND PROCESSING

IRP Global Resources Outlook 2019

39%

BY DOUBLING GLOBAL CIRCULARITY, WE COULD REDUCE CLIMATE EMISSIONS BY A MASSIVE 39 PERCENT ALREADY BY 2032

Circularity Gap Report, 2021

x2

GLOBAL MATERIAL USE IS PROJECTED TO MORE THAN DOUBLE FROM 79 GT IN 2011 TO 167 GT IN 2060

Ellen MacArthur Foundation, 2019

80%

PRODUCT DESIGN IS AT THE CORE OF THE CIRCULAR ECONOMY. OVER 80% OF ALL PRODUCT-RELATED ENVIRONMENTAL IMPACTS ARE DETERMINED DURING THE DESIGN PHASE OF A PRODUCT.

European Commission: Ecodesign your future

In a circular economy we get more value from what we have, and we keep that value in the economy for as long as possible.

700,000

THE CIRCULAR ECONOMY CAN INCREASE THE EU'S GDP BY AN ADDITIONAL 0.5% by 2030, CREATING 700,000 NEW JOBS IN THE PROCESSS.

EU Circular Economy Action Plan

+7%

INVESTING IN TEN CIRCULAR ECONOMY INNOVATION THEMES COULD CREATE AN ADDITIONAL 7% OF GDP GROWTH IN THE EU BY 2030.

EllenMacarthur Foundation, 2017

43%

START-UPS THAT AIM FOR POSITIVE SOCIAL IMPACT ARE 43 PERCENT MORE LIKELY TO BREAK INTO THE MARKET, COMPARED TO TRADITIONAL, PROFIT-DRIVEN START-UPS.

World Economic Forum, 2021

What’s up in the circular economy?

Traditional corporate social responsibility is no longer enough. The circular economy and sustainability need to be integrated in all business models.

Pioneering companies are setting stricter goals on emissions and circularity than required by regulation.

Both businesses and consumers are requesting data on the sustainability of products and services. This creates new business opportunities.

The Covid-19 pandemic exposed the vulnerability of linear supply-chains. Circular business models can help build resilience.

Circular Economy in the European Green Deal

1. "Climate neutral" Europe: *Increasing EU's climate ambition, including European 'Climate Law'*
2. Circular Economy under "Sustainable industry": *EU Industrial strategy, Circular Economy Action Plan*
3. Zero-pollution: *A chemical strategy for a "toxic-free environment"*
4. Investing in a Climate-Neutral and Circular Economy – The European Green Deal Investment Plan: 25% *of all European Union funding for climate measures*
5. Ecosystems & Biodiversity: *EU biodiversity strategy to 2030 and UN biodiversity negotiations*

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Pushing Finland to become a global forerunner in the circular economy

Sitra's work on the circular economy started in 2015:

- first national circular economy road map in the world
- tools for businesses to move towards a circular economy
- World Circular Economy Forum

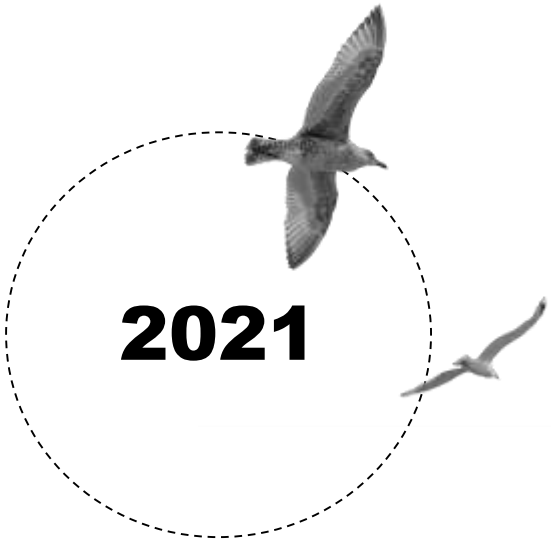
The first circular economy road map in the world!

2016: Finland was **the first country in the world** to create a national circular economy road map.

A circular economy road map is **a tool for change**.

Includes a vision, goals and 41 actions.

Circular economy as a sustainable foundation of Finland’s economy



Finnish strategic programme to promote a circular economy

The programme was created in collaboration with many societal stakeholders. It outlines **three objectives:**

1. The consumption of non-renewable natural resources will decrease, and the sustainable use of renewable natural resources may increase to the extent that the total **consumption of primary raw materials in Finland in 2035 will not exceed what it was in 2015**.
2. **Resource productivity will double** in 2035 compared with 2015.
3. The **circular material use rate** (CMU) must also be **doubled** by 2035.


FROM FINLAND
2.1
CIRCULAR
ECONOMY
fiksu ruoka.fi
remeo
HÄRKIS
ORIGINAL
RETURN ME!
Return me!

Lindström provides workwear as a service: “We reduce overconsumption of textiles and save natural resources”

”We provide companies with the textiles they need and look after the entire life cycle of the products, from design to reuse.

We design and manufacture textiles only for the companies’ needs and make them as durable as possible.

This enables us to reduce overconsumption and save natural resources.”

– **Anna-Kaisa Huttunen,** Senior Vice President

Infinited Fiber's technology allows wasted textiles to be reborn: "You can see and feel the transformation in the textile industry"

"Our technology can use cotton-rich textile waste and other cellulose-based waste streams, such as paper and straw, to create new textile fibre. This enables materials that are already in circulation to be recovered and the amount of generated waste to be reduced.

In the long term, we cannot manufacture the fibre for the needs of the whole textile industry ourselves. Therefore, we sell the technology licence for our patented Infinna manufacturing process to fibre producers. "

– **Petri Alava,** CEO

Betolar replaces cement with a low-emission circular economy option: “We must see side streams as a new source of raw material to replace virgin materials”

“We are currently replacing cement with binding agents made from side streams from the steel, mining, forestry and energy industries.

Nearly anything can be used as a raw material, including ash, gypsum sediment or tailings.

We use AI to investigate how various materials interact to ensure that the final product is a solid binding agent with a uniform quality.

– **Juha Leppänen,** founder

39 inspiring circular economy solutions from around the globe

We compiled a list of **39 inspiring circular economy solutions** from six continents, ranging from circular fashion to magnetic ink and from upcycling solar panel waste to podcasts and games.

The list was published at #WCEFonline in September 2020.

Take a closer look at sitra.fi/inspiring.

End-to-end material traceability across global supply chains supports a circular economy

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What skills are needed?

- Skills related to the circularity of materials, from product design to recycling and reuse

- Skills that support the circularity infrastructure, e.g. reverse logistics and material infrastructure management

- Skills on repairing and maintaining goods

- Service skills, e.g. knowledge on digital platforms in sharing economy or second-hand markets

- Creative skills, e.g. design and marketing of circular products and services

Circular Economy Playbook

Sustainable and circular business models for the chemical industry

CIRCULAR ECONOMY PLAYBOOK FOR CHEMICAL COMPANIES

May 2020

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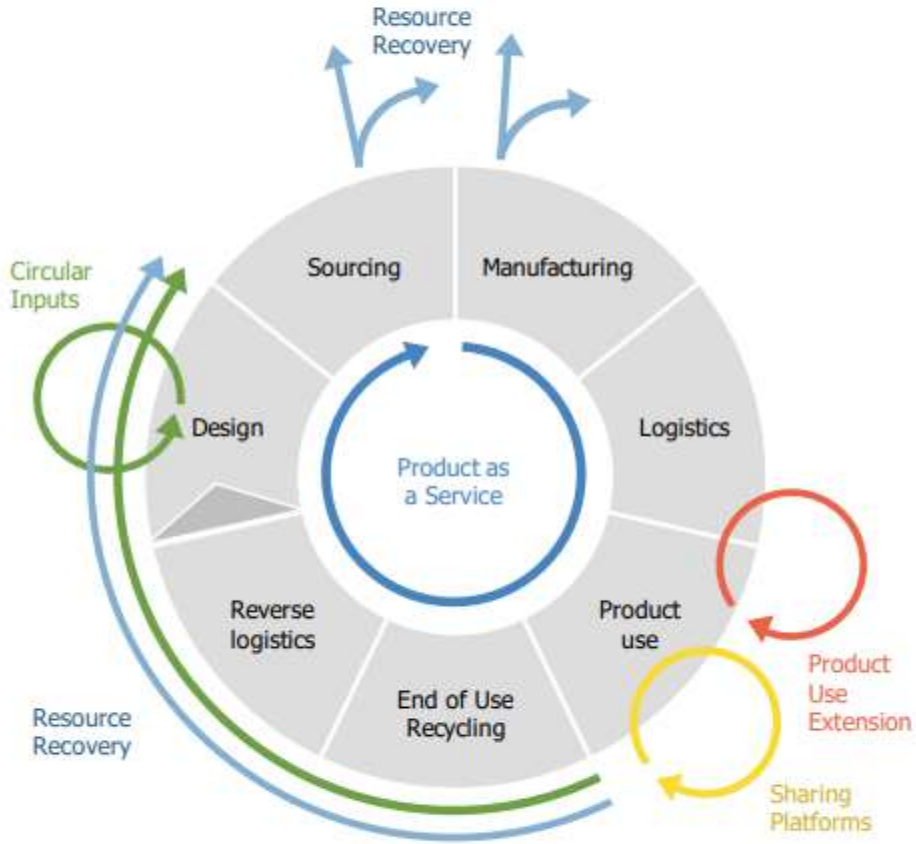
Sustainable and circular business models address these inefficiencies and waste streams and turn them into opportunities

Five sustainable and circular business models

Circular Inputs
Using renewable energy, bio-based and man-made materials, that are recycled or highly recyclable, to enable partial or total elimination of waste.

Resource Recovery
Using the embedded materials or energy from disposed products, byproducts or processes and recovering through collection, aggregation, and processing.



Product as a Service
Retaining ownership of products and selling benefits like function and quality through a service model, e.g. chemical leasing.

Product Use Extension
Product's use extended through design considerations, repairs, reconditioning, upgrades, and resale for second use

Sharing Platforms
Optimizing utilization rates of products and assets through shared ownership, access, and usage, e.g. online marketplaces for trading excess inventory

Business model relevance[1]

Energy-intensive chemical industry | Inorganic chemistry | Reactive chemistry | Formulating | Converters

Note: (1) All business models are relevant to all chemical companies at least indirectly through downstream enablement, yet business models concerned with product use, i.e. Product Use Extension and Sharing Platforms are most relevant to Converters, who create concrete consumer products. Source: Accenture research

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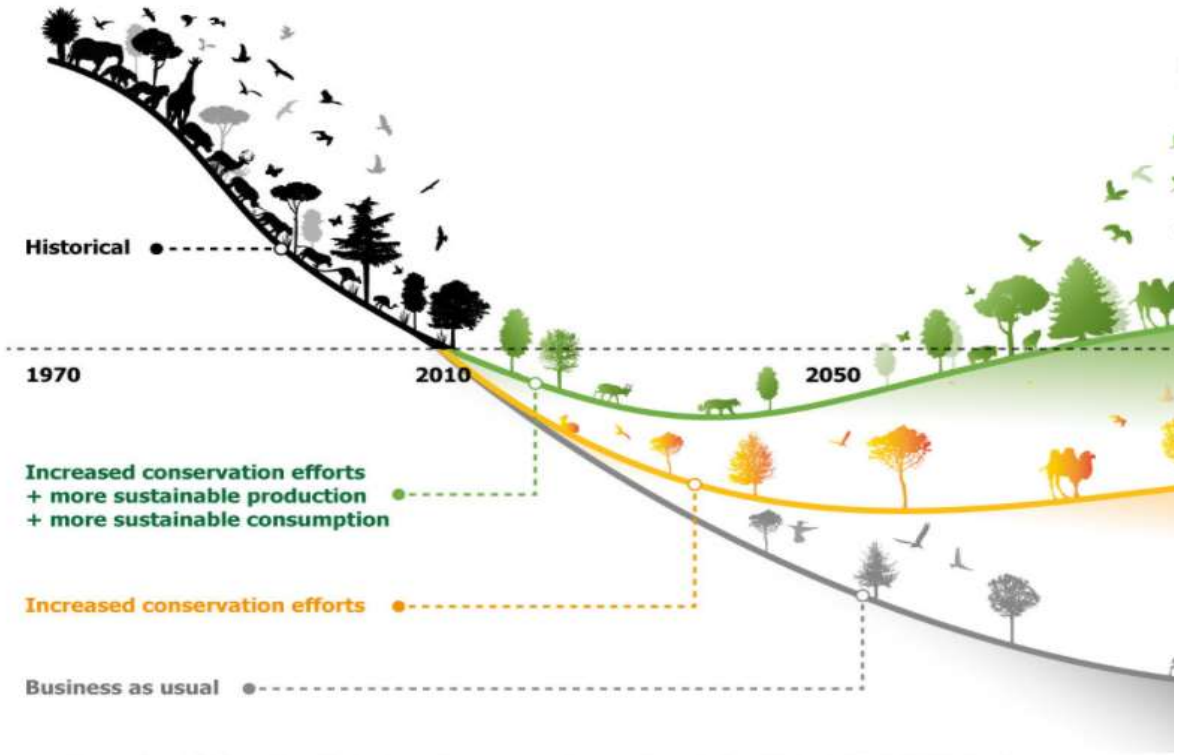
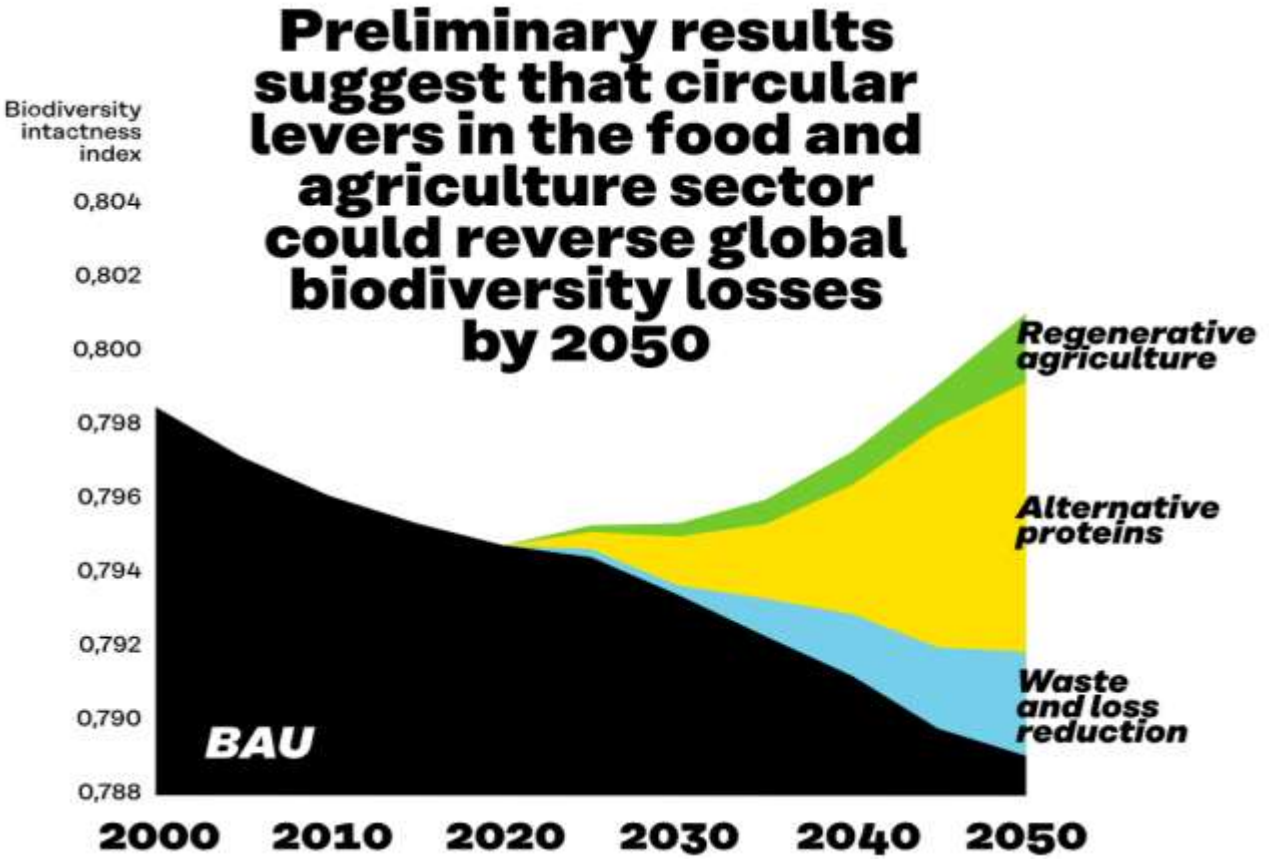
Link between circular economy and reversing biodiversity loss



This artwork illustrates the main findings of the article, but does not intend to accurately represent its results (https://doi.org/10.1038/s41586-020-2705-y)



UNEP-WCMC & IIASA, 2020

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The change towards a circular economy is a wise move for well-being and competitiveness, but also essential for a sustainable future.

What is your motivation to continue the circularity journey?

What is your role in advancing circularity?

What are the next steps you can take?

WCEF2021

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