

Two studies that highlight the importance of biomass and circular solutions for nature

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5 important things

1. A gift from Parliament to the 50-year-old Finland. Still under the direct control of the Finnish Parliament.
2. An independent future fund: a futurologist, visionary, developer, experimentalist, financier, partner, trainer, and networker.
3. Sitra's mission is to develop the successful Finland of tomorrow and its vision is a fair, sustainable and inspiring future that ensures people's well-being within the limits of the earth's carrying capacity.
4. Funded by returns on endowment capital and capital investments.
5. The vision is implemented by three themes and hundreds of projects.

**+ the most
important of all**

Building our future *together*.



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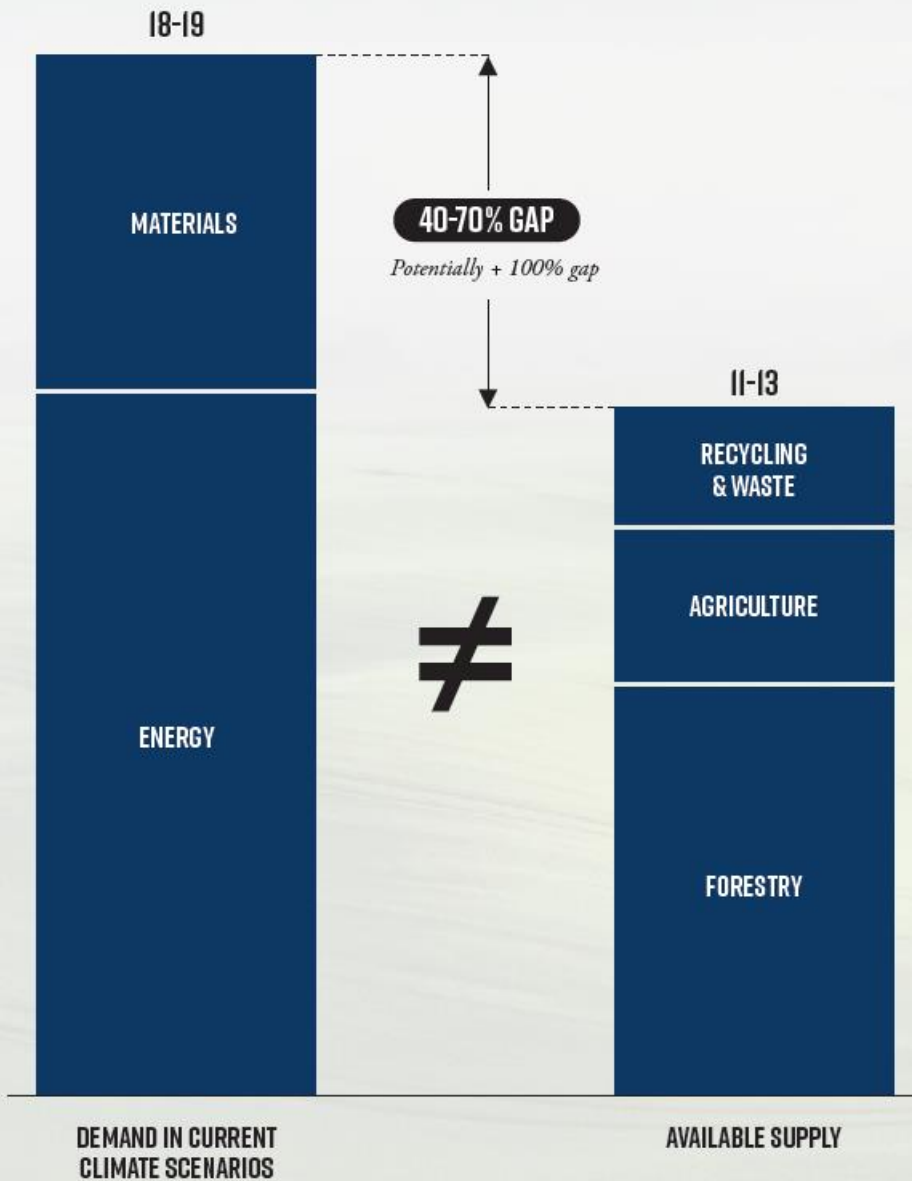
We have helped pioneer studies that capture the challenges of biomass supply

Current climate scenarios risk over-reliance on biomass, claiming 40–100% more than is sustainably available

Material Economics, Sitra etc. 2021: EU Biomass Use in a Net-Zero Economy



BIOMASS SUPPLY AND DEMAND FOR MATERIALS AND ENERGY IN THE EU
PRIMARY ENERGY EQUIVALENTS IN EJ PER YEAR



Supply and demand not in balance

- Current climate scenarios risk over-reliance on biomass, claiming 40–100% more than is sustainably available
- Existing climate scenarios require 18-19 EJ. Scenarios for individual sectors add up to more than 25 EJ.
- Supply beyond 11-13 EJ risks major trade-offs with key environmental objectives
- A course correction is needed: EU countries and companies need to prepare for this imbalance

AN AGENDA FOR A HIGH-VALUE BIOMASS FUTURE



1. ENSURE COHERENCE BETWEEN POLICY AREAS

*Improve coherence between EU energy, biodiversity, and agricultural policy.
Create consistent incentives for land-use and energy CO₂ emissions*



2. SET A CREDIBLE LONG-TERM DIRECTION FOR BIOMASS USE

*Reset expectations about future levels of biomass use
Account for the differential impact of different sources of biomass*



3. CREATE POLICIES TO SUPPORT HIGH-VALUE USES OF BIOMASS

*Ensure balanced incentives for materials and energy uses of biomass
Reconsider volume targets and policy that steer towards low-value uses of biomass*

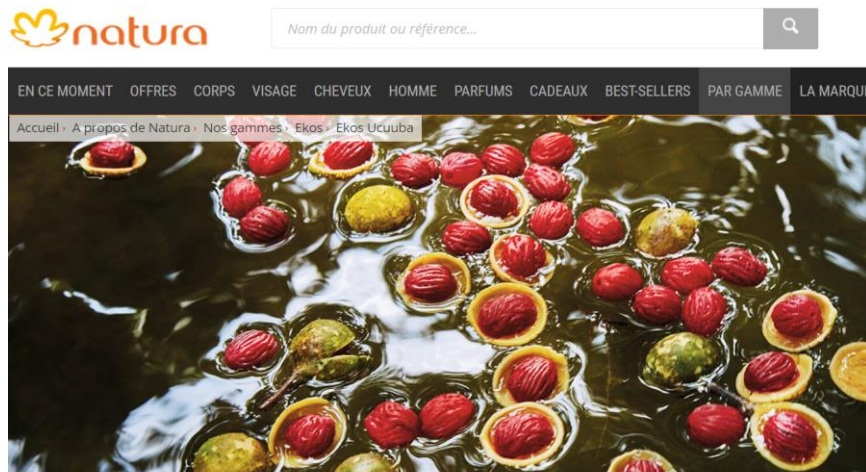


4. CREATE THE ENABLERS FOR A HIGH-VALUE BIOMASS FUTURE

*Support an accelerated innovation agenda
Enable the deployment of low-carbon electrification*

How can we get more value from biomass?

- Extend lifetimes *and* increase use rates through new business models
- Reuse and recycle biomass
- Valorise, and diversify production across more species and products



NATURA EKOS UCUUBA

<https://www.naturabrasil.fr/en-us/about-us/our-lines/ekos/ekos-ucuuba>

Loading pallets as a service

Encore runs a leasing service for loading pallets, where pallets are repaired if necessary. Thanks to the service, the usage rate of pallets improves and no natural resources need to be used for producing new ones at the same rate as before.

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May 15, 2019



<https://www.sitra.fi/en/cases/loading-pallets-service/>



<https://baltimorewoodproject.org/>

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A circular economy in four sectors can halt and reverse global biodiversity loss by 2035

Sitra 2022: Tackling root causes – Halting biodiversity loss through the circular economy



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What was modelled?



FOOD AND AGRICULTURE

Alternative proteins: Meat consumption falls by 50% and dairy consumption falls by 67%

Food waste per capita falls by 50%

Regenerative principles applied on 60% of croplands and 18% of pasturelands

TEXTILES AND FIBRES

Use rate of clothing increases by 50%

Recycling of clothing increases to 75%

FORESTS

Regenerative principles applied in 20% of secondary forests and in all managed forests

Recycling reduces new pulp demand by 48%

Paper use falls by 55%

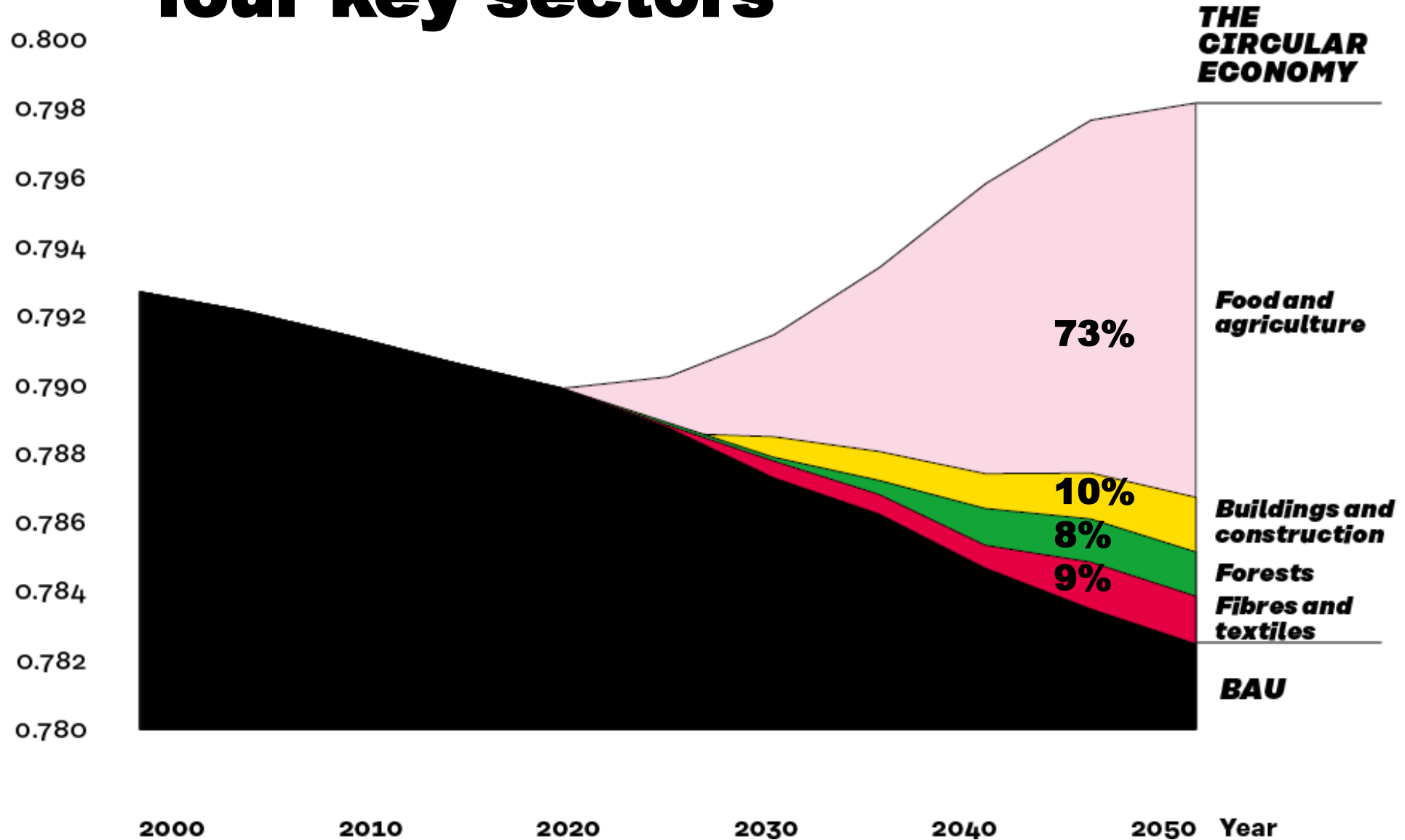
BUILDINGS AND CONSTRUCTION

Urban density increases by 51%

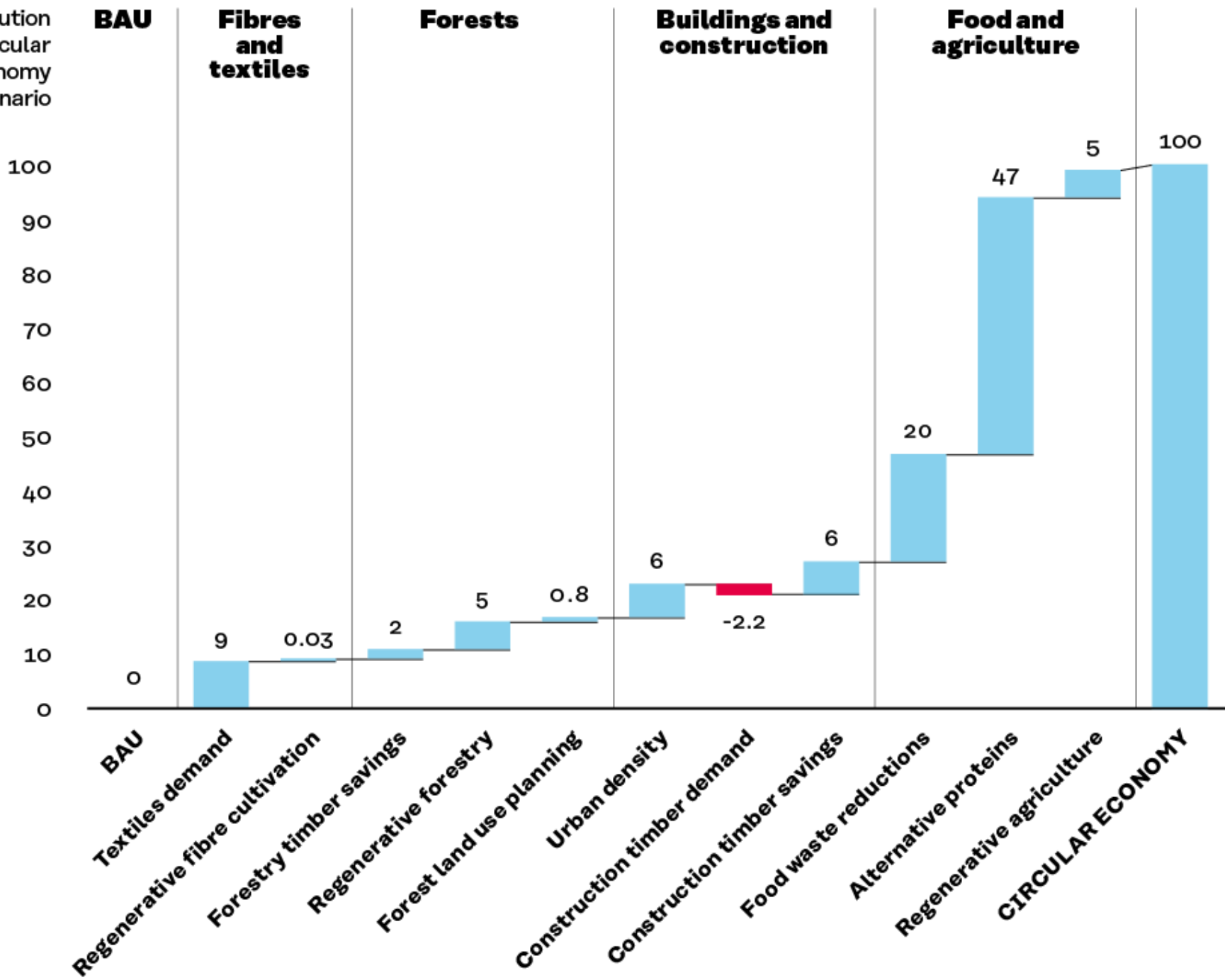
Construction timber savings reduce demand by 50%

Biodiversity
Intactness
Index (BII)

Contributions from the four key sectors



Contribution to circular economy scenario



Implications for EU policy

1. Mainstream the circular economy as a tool to halt biodiversity loss across and the EU Green Deal and adjacent policy areas.

2. Mainstream resource consumption targets across the EU.

3. Make Europe a leader in alternative proteins and cutting food waste



