



EUROPEAN FOREST INSTITUTE

Leading the way to a European circular bioeconomy strategy

Lauri Hetemäki, Marc Hanewinkel, Bart Muys, Markku Ollikainen, Marc Palahí & Antoni Trasobares

Foreword

Esko Aho, Cristina Narbona Ruiz, Göran Persson and Janez Potočnik

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Why the report & what are its objectives?

 FROM SCIENCE TO POLICY 5

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a European circular
bioeconomy strategy



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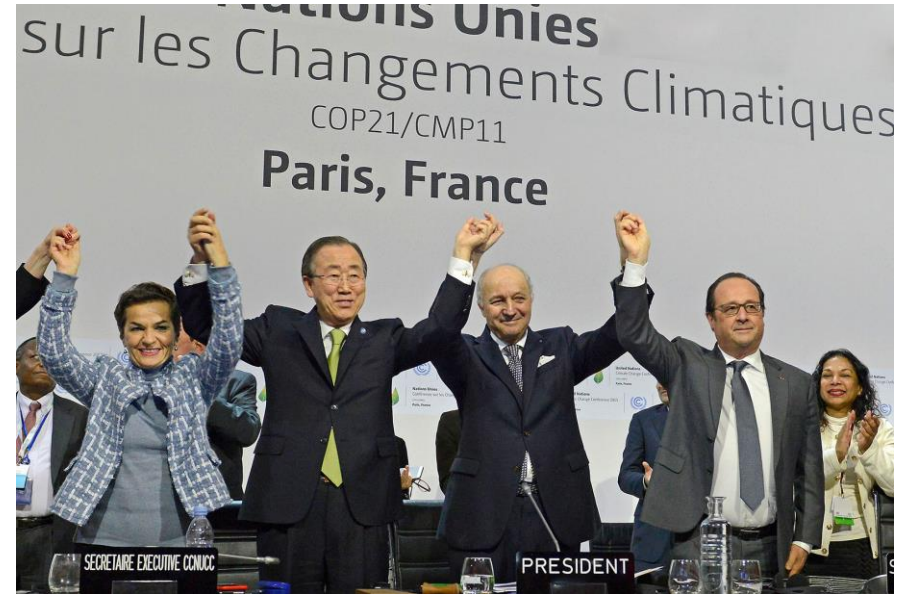
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1. What are the *gaps* in existing bioeconomy strategies that limit the possibilities to support the global agreements and goals?
2. Why it is important to link the *bioeconomy* and *circular economy strategies*, instead of advancing them separately?
3. What are the *key strategic elements* that a successful circular bioeconomy strategy would need to have?

The world states have agreed 2 major agendas



Keeping global temperature rise this century well below 2°C

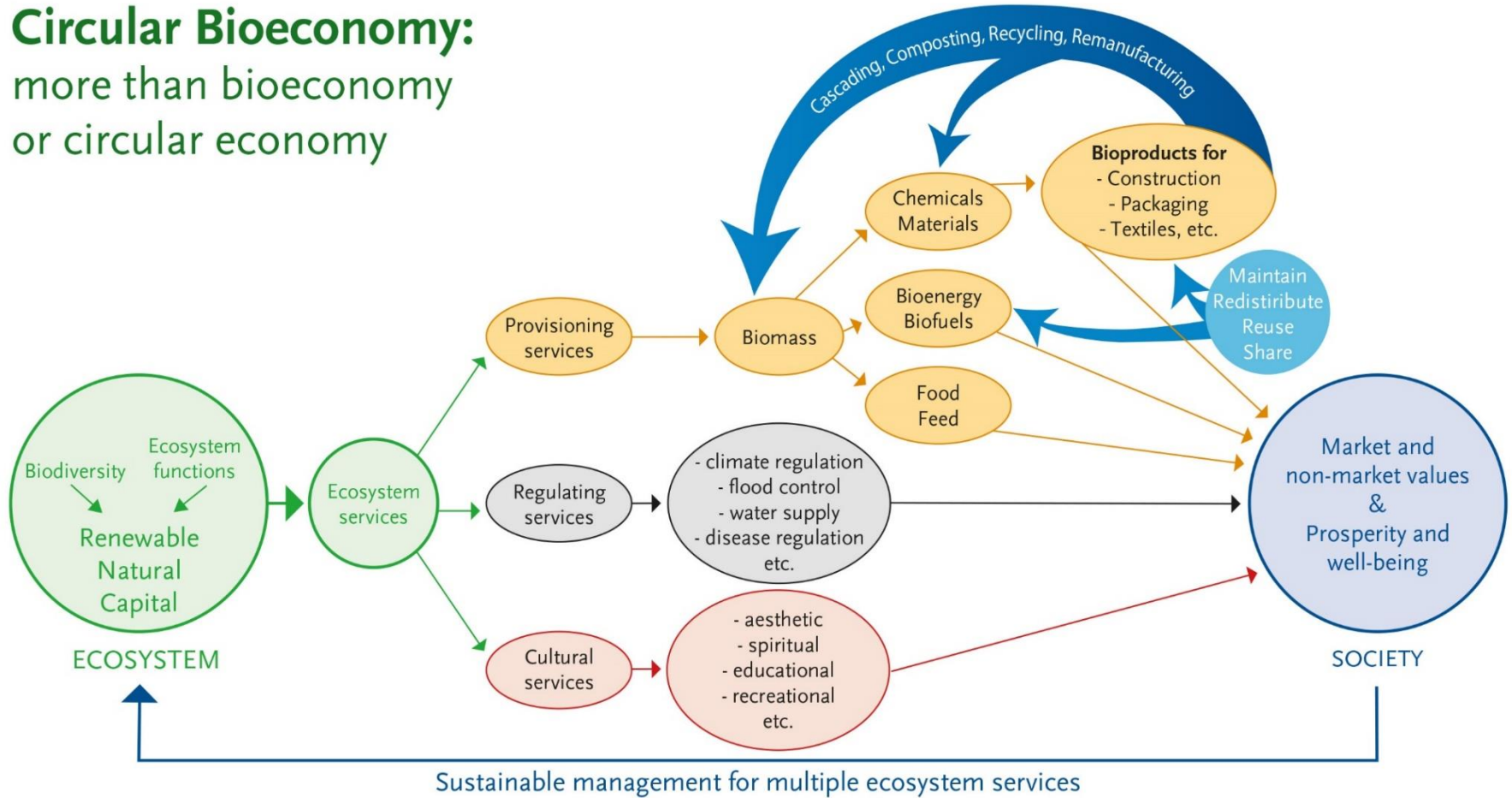


A socio-economic paradigm shift is necessary

- SDGs and Paris Agreement give a licence to change the existing economic model, or how we advance societal well-being
- *Business-as-usual* will not work
- Report argues that a **circular bioeconomy** is a necessary strategy to catalyse this transformation



Circular Bioeconomy: more than bioeconomy or circular economy



**Important to acknowledge all aspects of
renewable natural capital and bioeconomy,
even if it is not easy**

“It is often said that what you measure is what you get.

Building the future we desire requires that
we measure what we want,
remembering that it is better to be approximately right
than precisely wrong.”

Robert Costanza et al., Nature 2014

Need to update the EU + other bioeconomy strategies

1. No or poor links to *SDGs, Paris Agreement*, climate, etc. *policies*
2. Bioeconomy is a *tool*, not an end itself
3. Need to merge *bioeconomy* and *circular economy*
4. *Sustainability* of bioeconomy cannot be taken as given
5. Opportunities related to bioeconomy *services* poorly accounted
6. Bioeconomy necessary for *urban areas*
7. The potential of *forest-based sector* poorly understood– if at all

Three examples of growing bioeconomy products

Forest biomass



Viscose fibre



Textiles



Increasing demand in textile markets to replace e.g. cotton and synthetic fibres

Polymers



Bioplastics



Increasing demand in many consumer and industry sectors

Engineered wood products



Wood construction



Increasing demand in building sector

Hypothetical example: EU forest-based materials gain 1% share of the global markets in 3 sectors by 2050

Market in 2050	Construction (cement/concrete)	Plastics	Textiles	TOTAL
Production	13.7 Mt**	11.2 Mt	2.5 Mt	27.4 Mt
Revenue	~ 1 - 36 billion €	~ 7 - 18 billion €	~ 1.5 - 6 billion €	~ 10 – 60 bill. €
Wood use	68 Mm ³	(no primary use – based on side- streams)	15 Mm ³	> 83 Mm ³

5% share could even double the current revenue of the EU forest products industry

European circular bioeconomy strategy

FOR ACHIEVING A
SUSTAINABLE
FUTURE



Photo: Eeva Oinonen

Policy objective: maximize synergies and minimize trade-offs between different ecosystem services

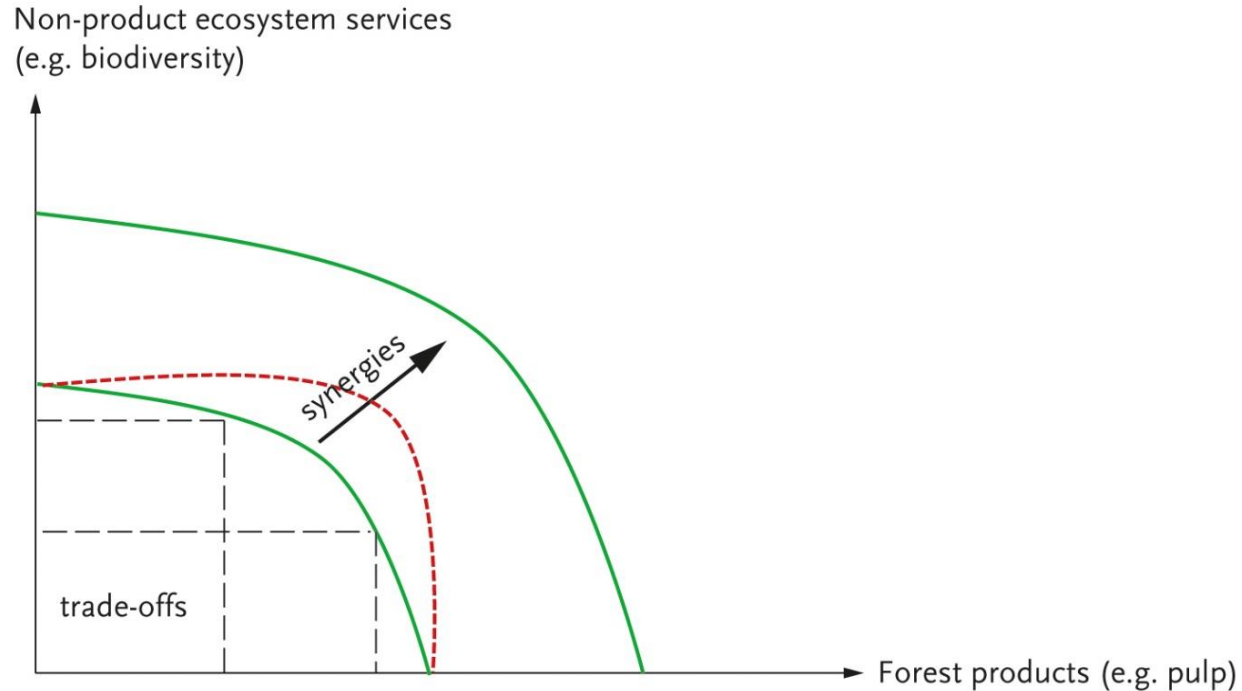


Figure 5. Illustration of forest-based bioeconomy production possibility frontier with trade-offs and synergies between forest products and non-product ecosystem services.

Priorities for circular bioeconomy strategy



1. Create a science-based circular bioeconomy *narrative*
2. Do not assume a bioeconomy is *sustainable*
3. Abolish fossil subsidies and increase the role of CO₂ price
4. Invest in *R&D*, innovations and new skills
5. Provide the right *regulatory framework*
6. Enhance *risk-taking* capacity
7. Develop EU-level *common standards* and regulations
8. Embrace biobased *services*
9. Make use of the opportunities that *forests* provide

The art and responsibility of politicians would be to sell the circular bioeconomy to voters



“No policy - no matter how ingenious - has any chance of success if it is born in the minds of a few and carried in the hearts of none”

Henry Kissinger



Thank you!



Photo: Erkki Oksanen

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