



- Definitions of bioeconomy and circular economy
- The general policy objectives
- Bioeconomy made in...?
- A final remark

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#### Definitions

**Bioeconomy (bio-based e., bio-resources e., nature-based e., bio-technology e.)**: 'the knowledge-based production and utilization of biological resources, innovative biological processes and principles to sustainably provide goods and services across all economic sectors' (Global Bioeconomy Summit 2015)

**Circular economy** is "*one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles*" (the Ellen MacArthur Foundation)

# Two different (complementary?) visions on circular bioeconomy

- Bio-technology vision which focuses on processing and upgrading biological raw materials, as well as on bio-technology research and application and new value chains
- Social vision highlighting sustainability and ecological processes → change also in the consumption styles and living standards





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The most ambitious, simple and welldefined, intersectoral target: the decarbonization of the EU economy

- -55% GHG emission below 1990 levels by 2030 (7 years and 2 months ahead)
- Net zero GHG emissions in 2050

Decarbonization: substitution of

- fossil fuels with renewable energy
- raw materials based on petrol, using biomass
- energy intense materials (e.g., cement, steel) with biomass

#### **Circular bioeconomy value chains development**



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- Bio-plastics
- Wood-based composites (e.g., PWC- *Plastic-Wood Composite*)
- Bio-textile products



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How to deal with a very relevant increase of demand for biomass in the future?

**Biodiversity Strategy:** 

- **30%** of the territory under protection
- **10%** under strict protection

A. Agriculture related answers

B. Forest related answers





- Active biodiversity protection and land restoration policies in the EU, e.g. all old growth forests under protection
- High EU targets for using forests to mitigate Carbon emissions (Carbon sequestration in 2030: - 310 Mt CO<sub>2</sub> eq)
- No visible increase of forest biomass removals in EU in the last years (not considering savage wood)

Two more solutions: a. Expanding the EU forest area

b. Importing more biomass

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displacing farmland and putting climate and food security objectives at odds

#### B. Importing more biomass

More than 1/3 of biomass inputs for the EU bioeconomy are sourced and imported from extra-UE areas nature

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COMMENT | 26 October 2020 | Correction <u>12 November 2020</u> | Correction <u>21 December 2020</u> | Correction <u>03 March 2021</u>

ard Fuchs 🖂 , Calum Brown & Mark Ro

Europe's Green Deal offshores environmental damage to other nations

Importing millions of tonnes of crops and meat each year undercuts farming standards in the European Union and destroys tropical forests.

There is a formally defined need of reducing EU Carbon and biodiversity footprint from import



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- Bio-technology vision which focuses on processing and upgrading biological raw materials, as well as on bio-technology research and application and new value chains
- Social vision highlighting sustainability and ecological processes → change also in the consumption styles and living standards
  There is a need of a strong political vision and adequate implementation tools

Not a matter of the direction to be taken...

... but of the values in guiding the political vision and the optimal tools to be used



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