

**Towards forest management in line with the protection and conservation of biodiversity**  
 Final European Conference  
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**Comparing the new European Strategies: opportunities and conflicts**

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1222-2022  
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Team del progetto



1

**Outline**

- The dominant policies
- Decarbonization
  - the non-forest related answers
  - the forest answers
- Concluding remarks

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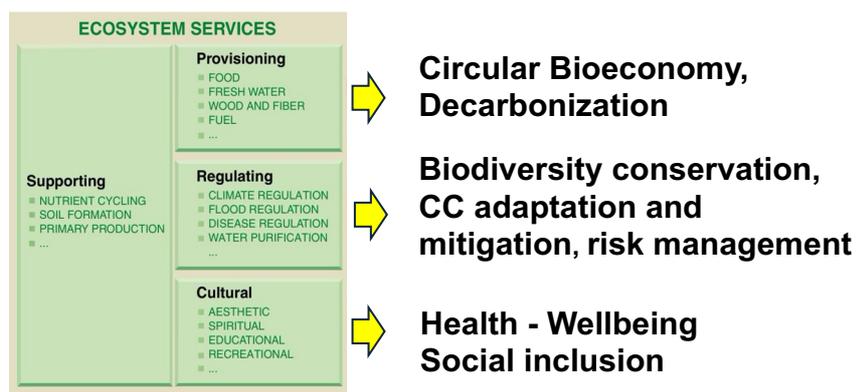
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## Outline

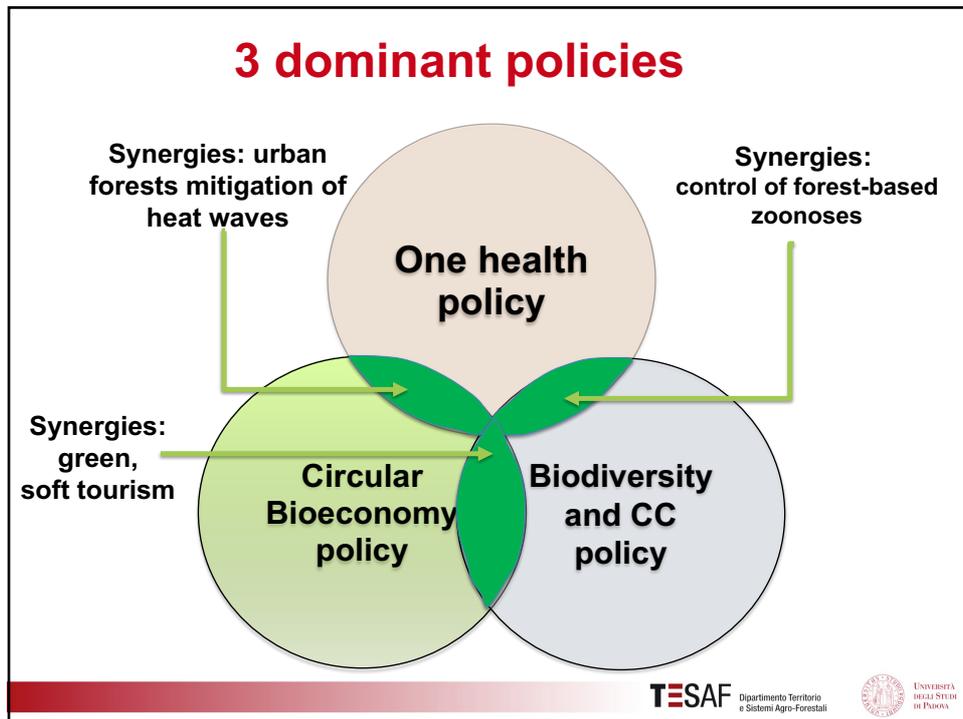
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3

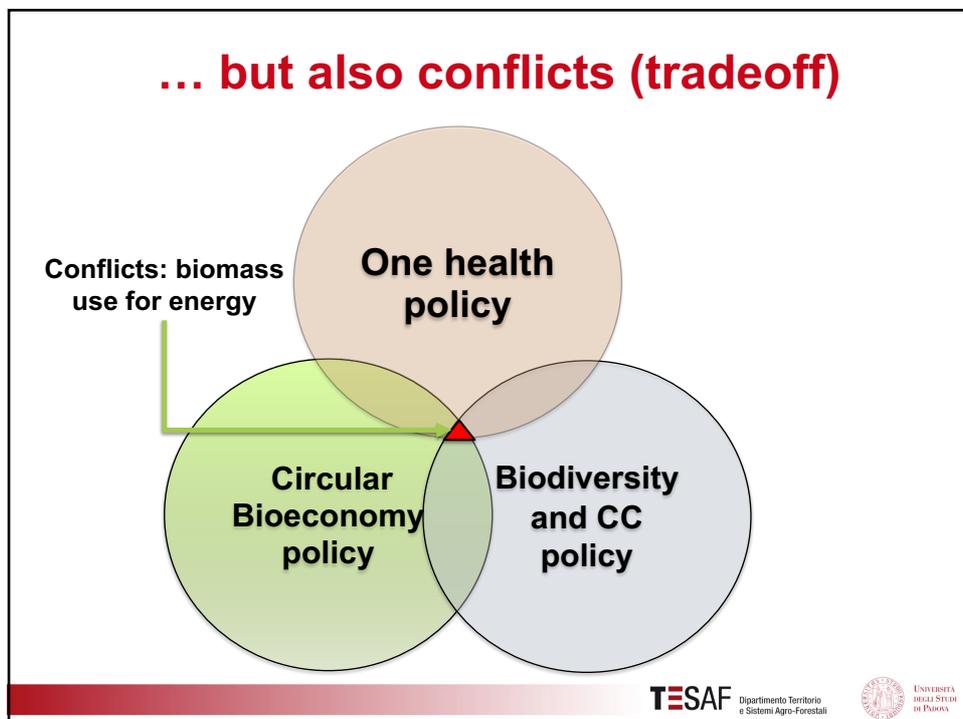
## Ecosystem service and field of policy action



4



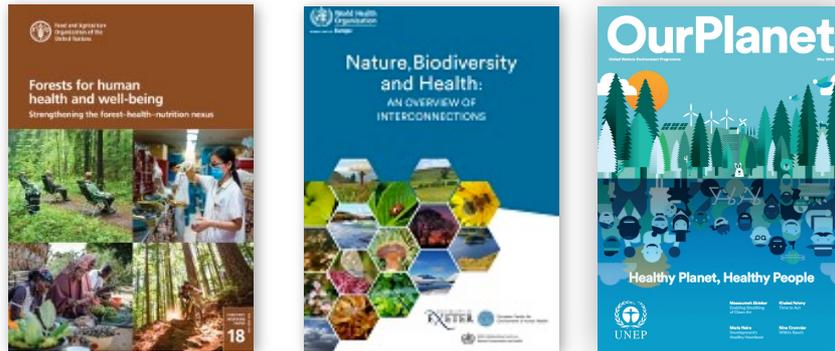
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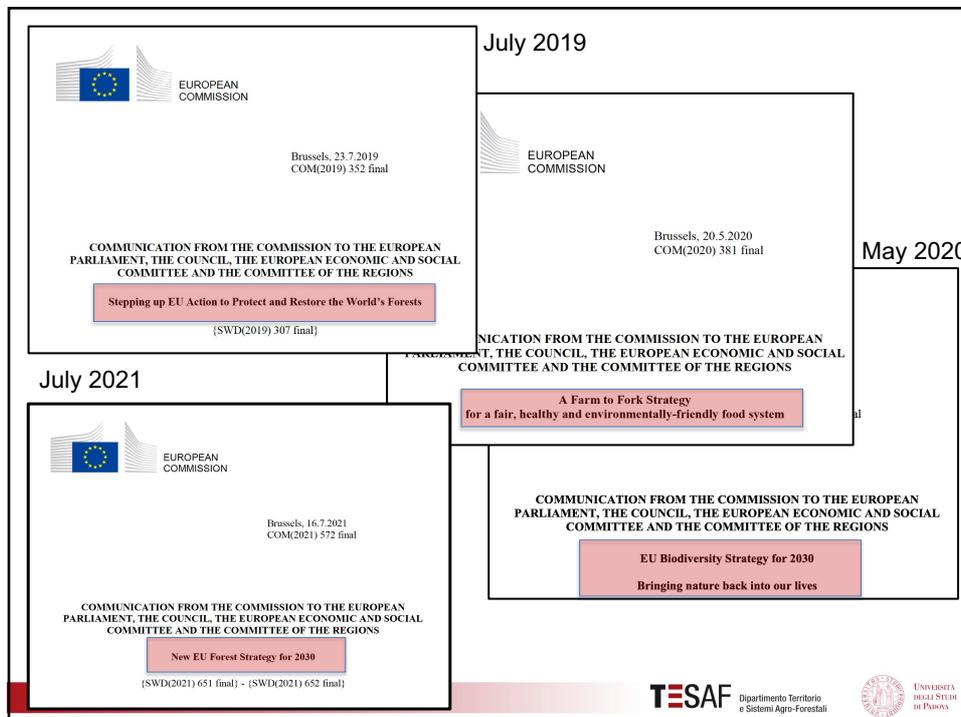
7

# One Health policy (WHO, FAO, OIE, UNICEF et al., 2008)

Human health is interdependent and bound to the health of the ecosystems → A growing attention to the relationship between environmental protection and human health



Source: <https://www.oie.int/>



## New ideas from recent strategic documents

### EU Action to Protect and Restore the World's Forests (2019)

- «Encourage the strengthening of standards and certification schemes that help to identify and promote **deforestation-free commodities**»

### Farm to Fork Strategy (2020)

- approval of the **Carbon farming initiative (including the forestry sector)** → «generation of tradable carbon certificates» to be sold in the European Trading System

### Biodiversity Strategy (2020)

- At least **30%** of the EU territory **under protection**; **10%** area under **strict protection**
- Mapping and protecting all EU **primary and old growth forest**
- **3 Billion of trees planted** in 2030

## EU Forest strategy for 2030 (2021)

- “**Closer-to-nature**” guidelines and voluntary certification scheme → EU quality label for biodiversity friendly management practices (by 2023)
- **legally binding instrument** for **ecosystem restoration**, including forest ecosystems (by 2021)
- (if appropriate) set **minimum standards for third party certification schemes** to ensure adequate standards of reliability, transparency and independent audit
- **Carbon farming** and a regulatory framework for **certifying carbon removals** → inclusion of forest carbon credits within the **EU ETS**
- **Zero deforestation** commitment and initiatives → link with bioeconomy

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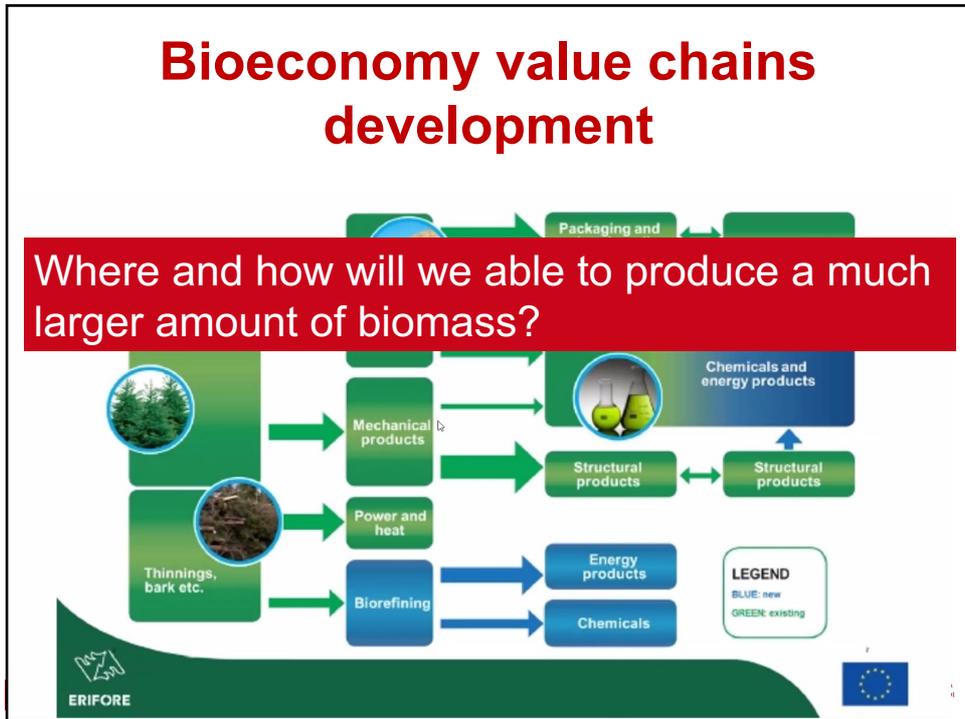
Let's start with the most ambitious, simple and well-defined, intersectoral target:

### **the decarbonization of the EU economy**

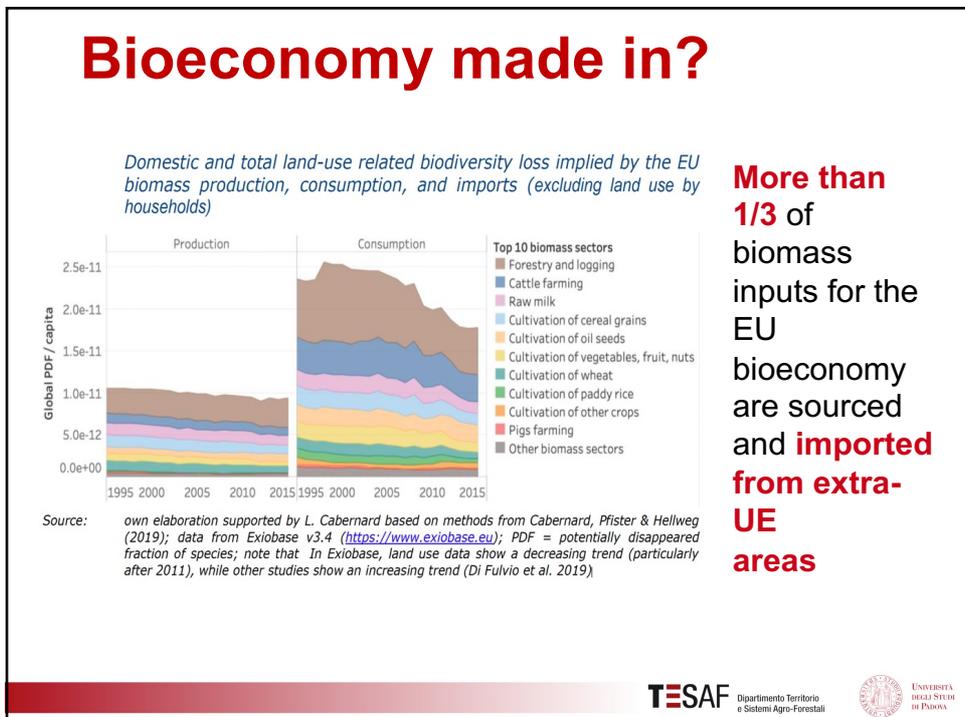
- -55% GHG emission below 1990 levels by 2030 (7 years and 10 months ahead)
- Zero GHG emissions in 2050

Decarbonization: substitution of

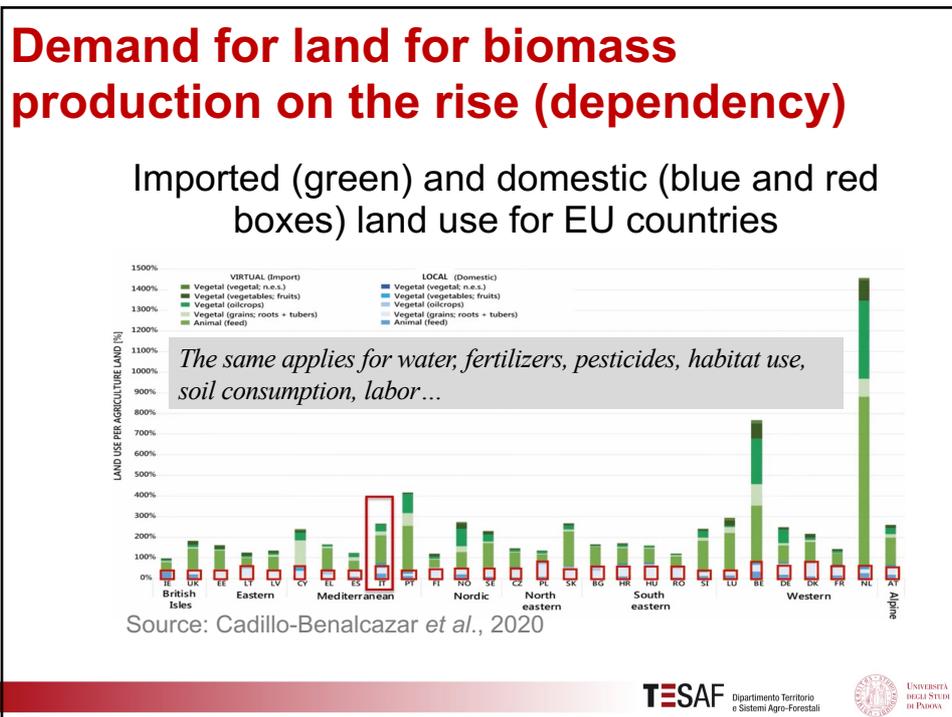
- fossil fuels with renewable energy
- raw materials based on petrol, using biomass
- energy intense materials (e.g., cement, steel) with biomass



17



18



19

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20

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

### A. Non-forest related answers

- 30% of the territory under protection; 10% under strict protection
- Reducing our Carbon and biodiversity footprint from import
- More EU farmland available for biomass production? Other solutions

*The EU depends heavily on agricultural imports; only China imports more. Last year (2019), the region bought in one-fifth of the crops and three-fifths of meat and dairy products consumed within its borders (118 Mt and 45 Mt, respectively).*

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COMMENT | 26 October 2020 | Correction 12 November 2020 | Correction 21 December 2020 | Correction 03 March 2021

#### 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.

[Richard Fuchs](#)  [Calum Brown](#) & [Mark Rounsevell](#)

## Policy objective: reduced environmental pressure from EU food products imports

- Reduction of EU **carbon footprint** of import (each EU citizen currently 'imports' around 1 tonne of CO<sub>2</sub>/year in goods entering the EU); Carbon burden import tax (not for food products at the moment)
- **Harmonize sustainability standards**, e.g., in energy crops imported (soy and palm oil for biodiesel)
- **Zero-deforestation and forest degradation** new Regulation

23

## Embodied deforestation (agriculture and forest commodities)

**Table S7.** The 10 largest importers of embodied forest loss.

Country	Forest transition stage	Imports of embodied forest loss (Mha yr <sup>-1</sup> )	Percentage of total imports
China, mainland	4. Post	0.20	14%
India	4. Post	0.10	7%
Russian Federation	4. Post	0.09	6%
The U.S.	4. Post	0.07	5%
Japan	4. Post	0.06	4%
Germany	4. Post	0.05	3%
Italy	4. Post	0.04	3%
United Kingdom	4. Post	0.04	3%
Egypt	Unclassified	0.03	2%
Brazil	3. Late	0.03	2%
All other	Not applicable	0.69	50%

← 40,000 ha/yr

Source: Pendrill *et al.*, 2019

24

## Limited impacts of the Green Deal on EU internal supply of food

'Farm to fork' and CAP policies by 2030:

- to **reduce fertilizer use** in Europe by **20%** and
- **pesticides** by **50%**
- **one-quarter of land to be farmed organically**
- to plant **3 billion trees**
- to **restore 25,000 kilometres** of **rivers**
- **Changing the CAP** that is based on subsidies on area, not production

→ Better quality but not higher quantity of food commodities → more land needed for food production → no much room for increasing non-food internal production

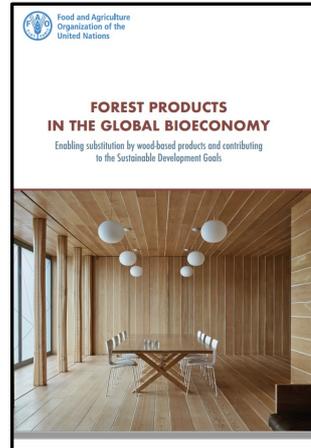
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## How to deal with a very significant increase of demand for biomass supply in the future?

### B. Forest-related answers

- Wood for energy: let's assume the full adoption of a cascade approach and a remarkable increase in efficiency in residential uses
- Forests biomass to replace commodities from fossil resources or in general from energy-intensive materials



## 5 strategic sectors

(for fossil product substitution)

- Engineered wood products

*Cross-Laminated Timber* (CLT or X-LAM): +37% annual growth (2014-20)

*Laminated Veneer Lumber* (LVL): +6% annual growth

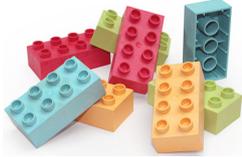
- Foams and wood insulation



## 5 strategic sectors

(for fossil product substitution)

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













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30

## 5 strategic sectors

(for fossil product substitution)

Building sector (← New Bauhaus initiative)

- Engineered wood products
- Foams and wood insulation
- Bio-plastics
- Wood-based composites
- Bio-textile products

**From low-quality wood biomass**

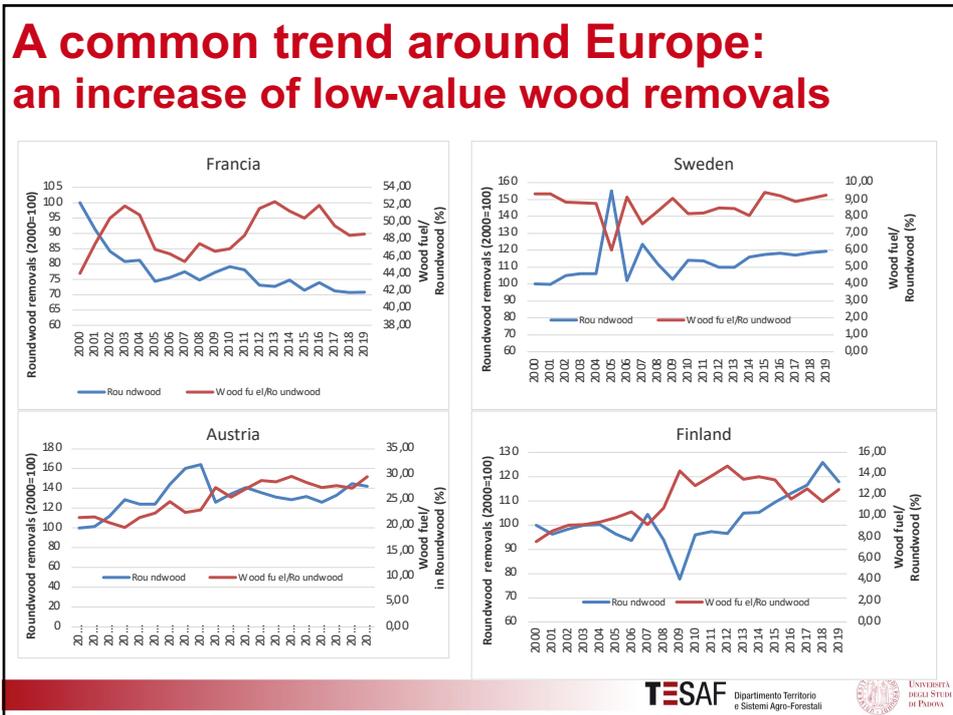


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31



32

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33

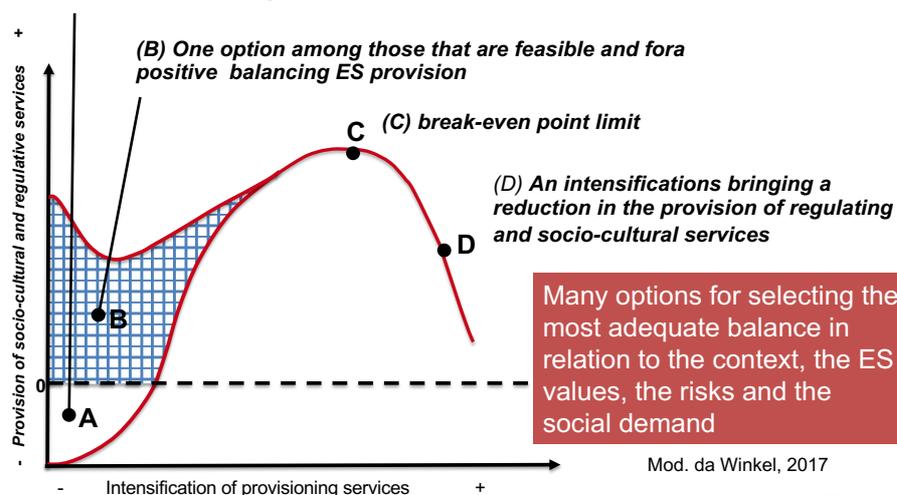
## Take home messages

- **Solid biomass is key** to achieve net-zero emission targets
- We have to **reduce our Carbon and biodiversity footprint** from imports and increase the **self-sufficiency rate** in biomass consumption
- The EU agricultural sector has relevant **limitations** to increase the **non-food component** of its production
- The EU **forest sector** has to play a **relevant role**; how?
  - **Cascading** and **recycling**
  - Increased **efficiency** in energy use
  - How to deal with the request of **low-quality biomass**? **Sustainable intensification**? Plantations and SRC? Gene-editing techniques?
  - Science-based **communication**, consensus raising

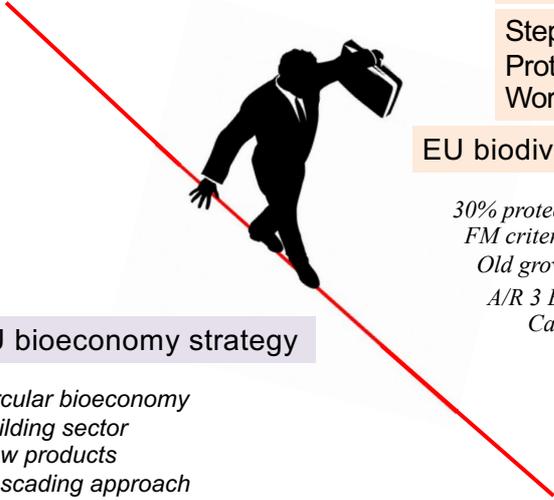
34

## Relationship between intensification of provisioning services and supply of other ES

(A) Low level of provisioning services = negative environmental impacts in socio-cultural and regulative services provision



35



**EU Farm to Fork strategy**

**Stepping up EU Action to Protect and Restore the World's Forests**

**EU biodiversity strategy to 2030**

- 30% protection; 10% strictly FM criteria*
- Old growth forests definition and mapping*
- A/R 3 Bln trees*
- Carbon farming initiative*
- Payments for ES*

**EU bioeconomy strategy**

- Circular bioeconomy*
- Building sector*
- New products*
- Cascading approach*
- RED II + Fit-for-55 criteria*

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