



Forest bioeconomy for sustainability transition – potential and contradictions

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Outline

1. How do we achieve a sustainable circular bioeconomy?
2. Forest bioeconomy: opportunities and challenges for the sector
3. Policy arena: increasing demands and implications: integrated management
4. Policy outcome: contradictions and counterproductive developments
5. Explanations: power distributions
6. Conclusions: implications for analyses

1. The question

- **How do we achieve a sustainable circular bioeconomy?**
- **Are we on the way to sustainability transition?**
- **What is the role of the forest sector?**
- **Will it all work out?**

2. What does it imply for the forest sector?

- **Opportunities:**

- Growing demands for renewable materials and energy
- Growing demands for services for society

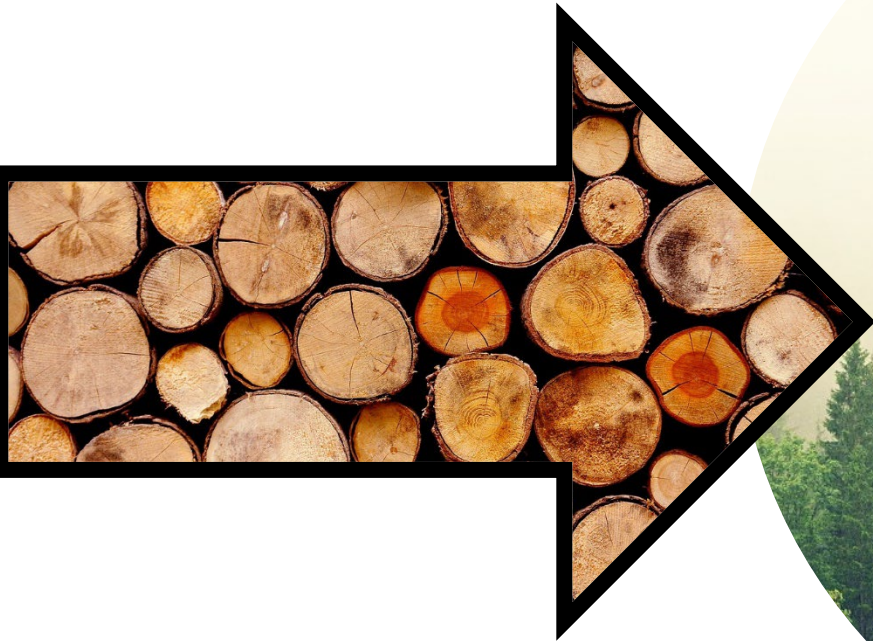
- **Challenges:**

- Multiple and partly contradictory demands from society
- Increasing climatic stress by heat, drought and extreme events
- Decreasing profitability through growing costs
- Less interest of the population to work in forestry
- ...



3. The policy arena

Bioeconomy targets



Biodiversity targets



3. The policy arena

Bioeconomy targets



Biodiversity targets



3. The po'

Bioeconomy targets:
Intensive biomass
production



Integrated management for multiple purposes – needs:

- Refined planning of management goals and silvicultural measures;
- Better spatial priority planning;
- Increased need for monitoring;
- Adaptation to climate change;
- Increased resilience requirements;
- Refined harvesting technologies and precise optimisation of harvested assortments;
- Increasing energy efficiency in forest management and harvesting;
- ...

Biodiversity targets:
Increasing protected
areas



4. Contradictions and counterproductive developments

- **Requirements:**
 - Need for more wood and timber AND need to halt biodiversity loss means intensified management via
 - integrated planning and management and more environmentally friendly harvesting techniques.
- **Counterproductive developments:**
 - trend for increasing protected areas and to reduce timber production and
 - still pressure for rationalization in forestry (less resources available/invested).
- **Reasons:**
 - Carbon sink in forests to compensate for emissions in agriculture
 - and industries,
 - instead of managing it for sustainable production by itself – within ecological boundaries!

5. Possible explanations

- **Unsustainable shifting of costs and burdens to other sectors and countries:**
 - Industrialised countries and established industries and interest groups with high levels of emissions from energy and material use shift the burden to other sectors and countries through compensation mechanisms instead of reducing their emissions first of all.
- **Vague and inadequate understanding of sustainability:**
 - Weak sustainability approaches assume that production factors can be substituted and emissions can be compensated in other ecological systems. However, biodiversity loss and the loss of functioning ecosystems cannot be compensated.
- **Improper use of economic instruments/mechanisms :**
 - Economic instruments/mechanisms such as carbon trade would be supportive for efficient transformation if prices are right and if a cap is installed. Via too low prices, and without cap, the instruments are misused to shift the burden to other countries and beyond ecological limits.

6. Conclusions

- **Current policy demands for the forest/forest sector are unrealistic.**
- **The forest sector is misused by other – emitting – sectors.**
- **The study of green/bioeconomy transition needs**
 - **to analyse cross-sectoral links,**
 - **global interrelations, and**
 - **to include the analysis of power relations.**



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