

ValoFor

Madrid, 28/9/2022

Valorising small scale forestry for a bio-based economy /
<http://www.valoform.si/>

Project acronym: ValoFor

Coordination: Austrian Research Centre for Forests BFW, Austria



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 773324

Project partners

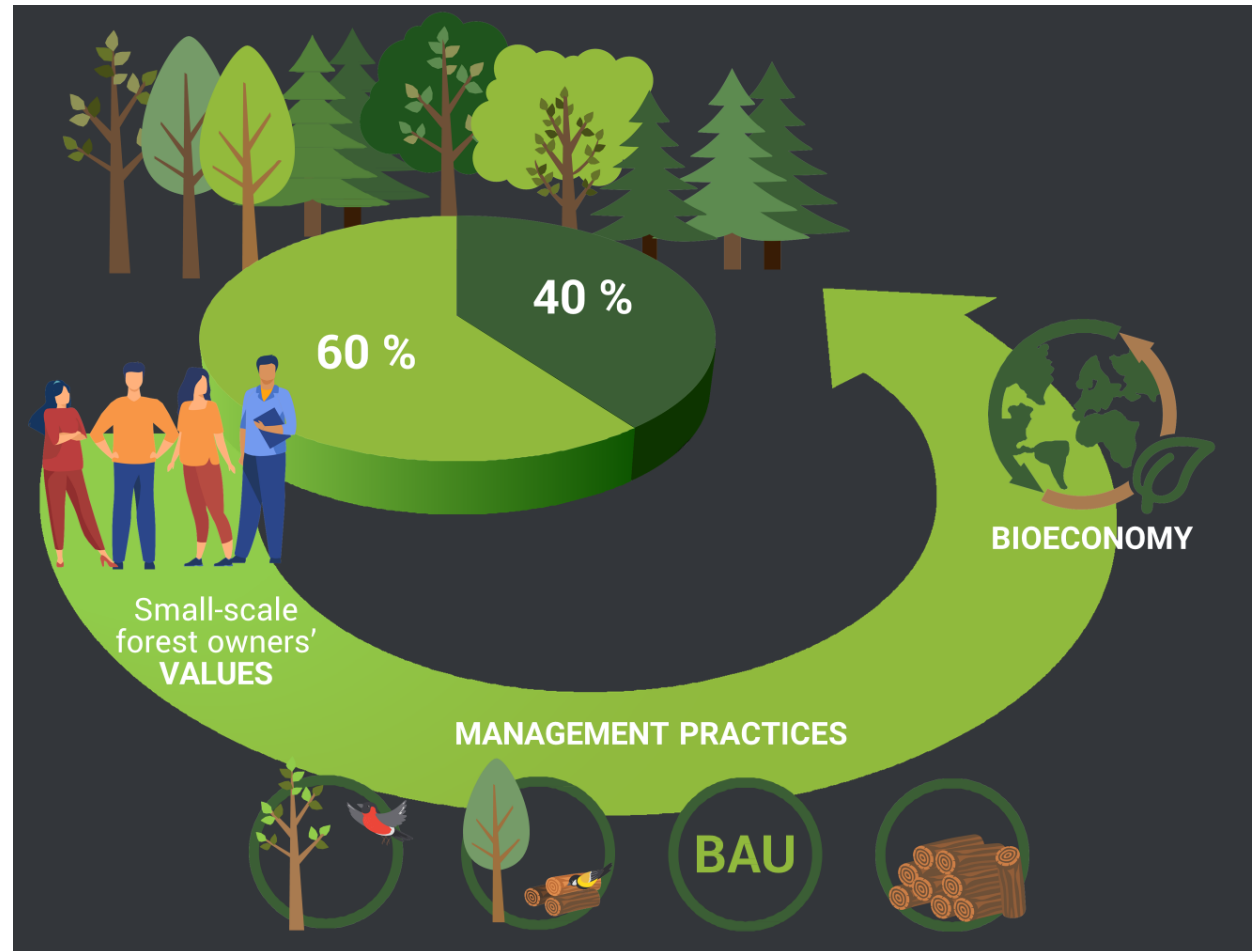


- Austrian Research Centre for Forests BFW, Austria
 - Johann Heinrich von Thünen Institute, Germany
 - Umeå University, Sweden
 - Natural Resources Institute Finland, Finland
 - Slovenian Forest Institute, Slovenia
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- Total project budget: 1,816,100 €
 - Project start and end date: 2020 – 30 September 2022

Introduction

Project objective:

To understand the contribution of small-scale forest owners in the transition to a wood based bio-economy by considering the perception and management strategies of small forest owners.



Introduction

Challenges:



- *Change of small forest owner structure and the change of their perception on wood productions and ecosystem services*

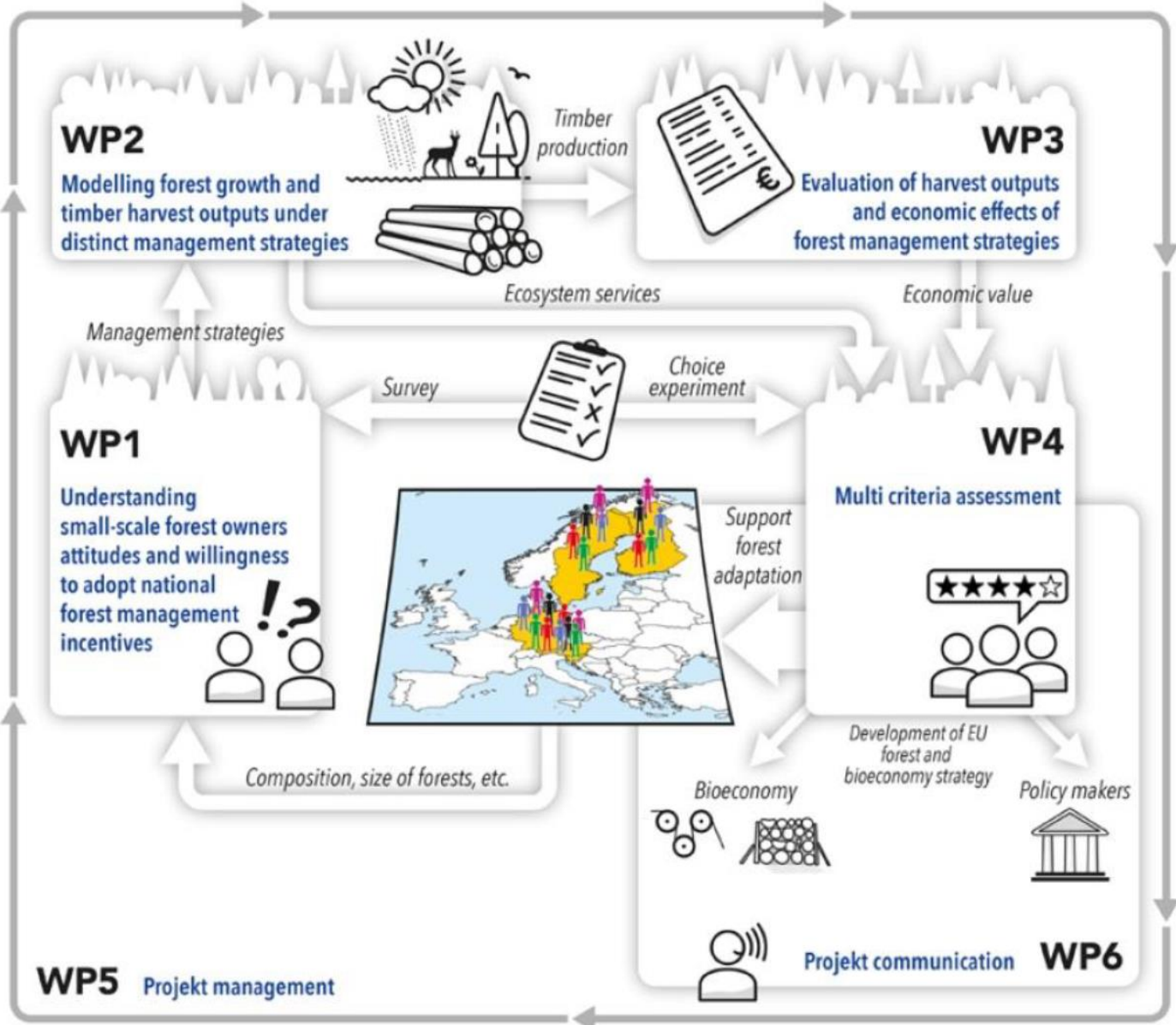


- *The growing timber demand worldwide and the increasing substitution of fossil raw materials by bio-based agricultural and forest resources*



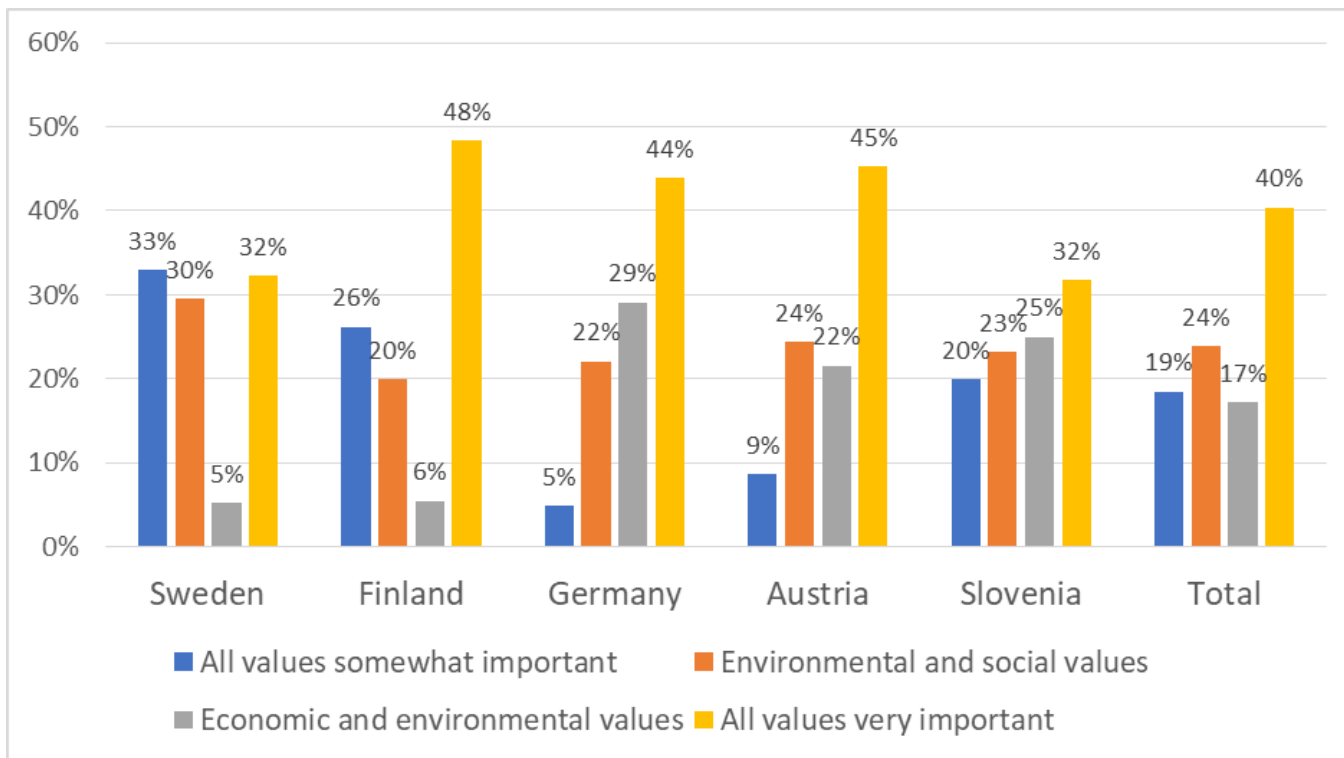
- *Increasing risk of climate related calamities and the required management to adapt forests to climate change*

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Results

Survey-results: Value orientation and management activities

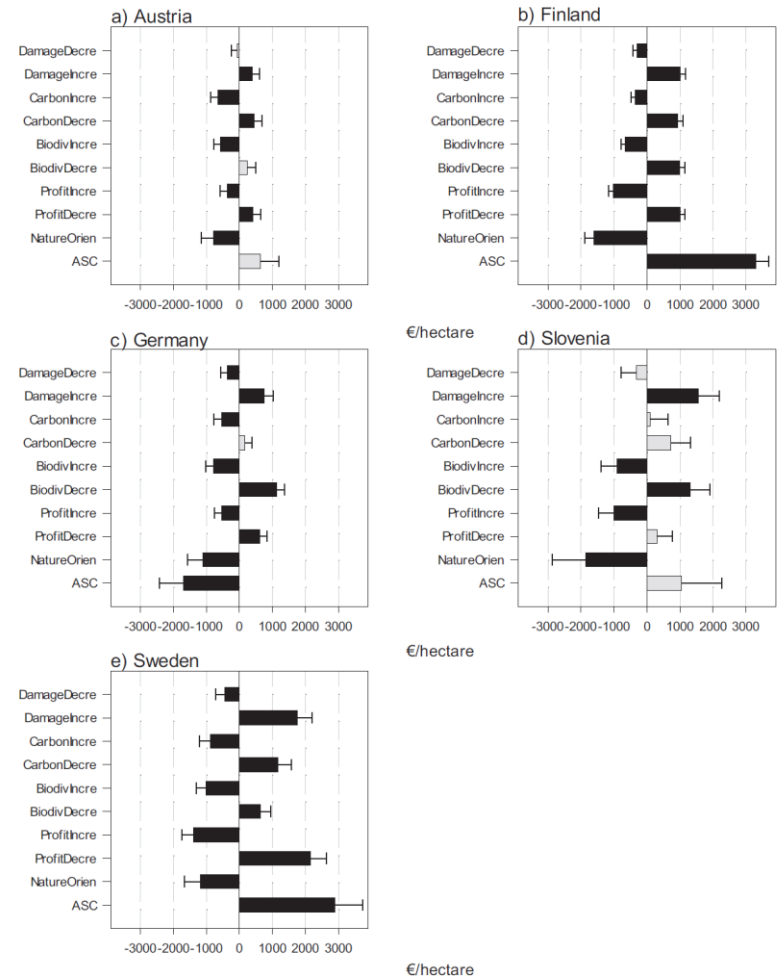


- Value orientation varies strongly countries
- Group with „All values very important“ is the most active across countries

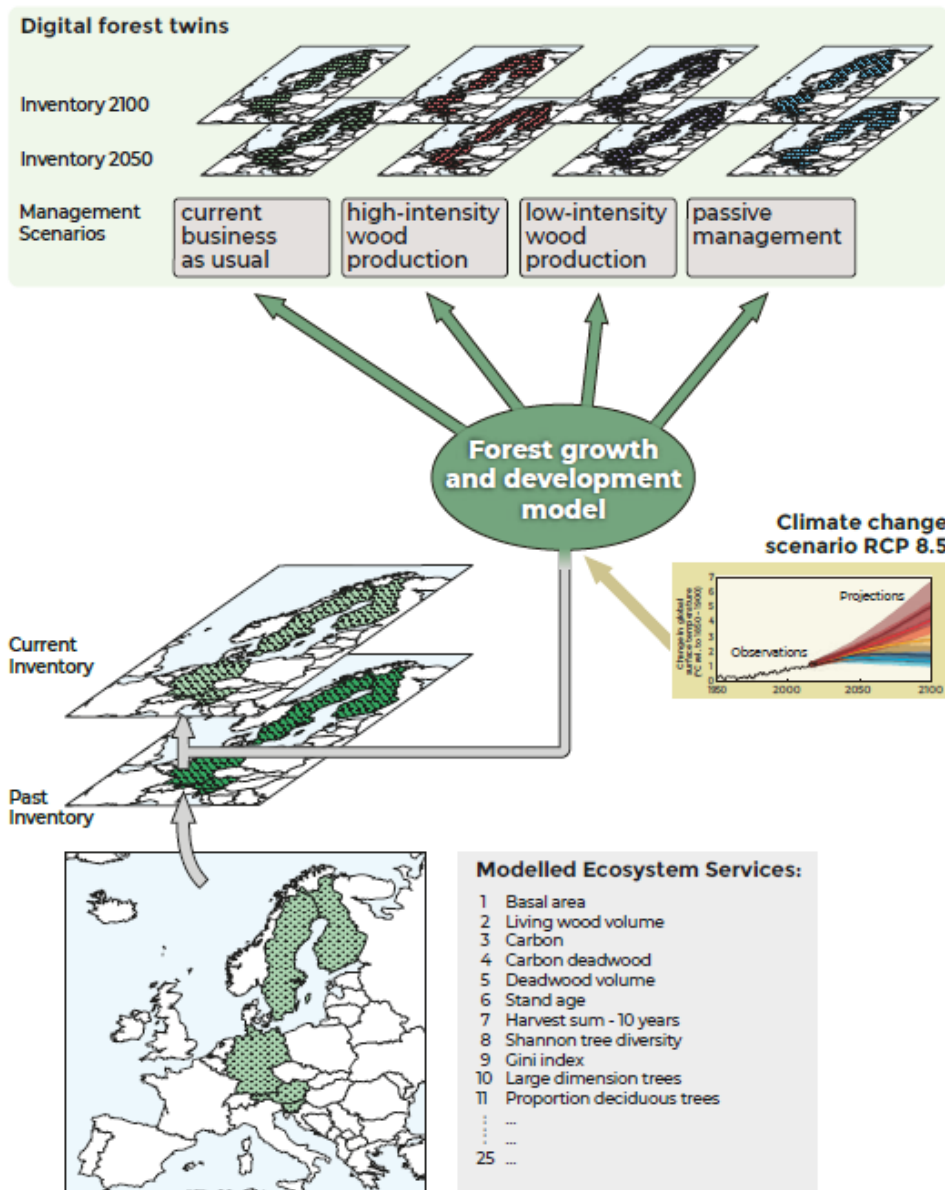
Results

Choice experiment: Preferences for contract-based management

- Respondents prefer the conventional system without contract in all countries except Germany
- Contracts that promote environmental goals (Biodiversity, Carbon) were preferred
- Contract that increase wood productions were disliked



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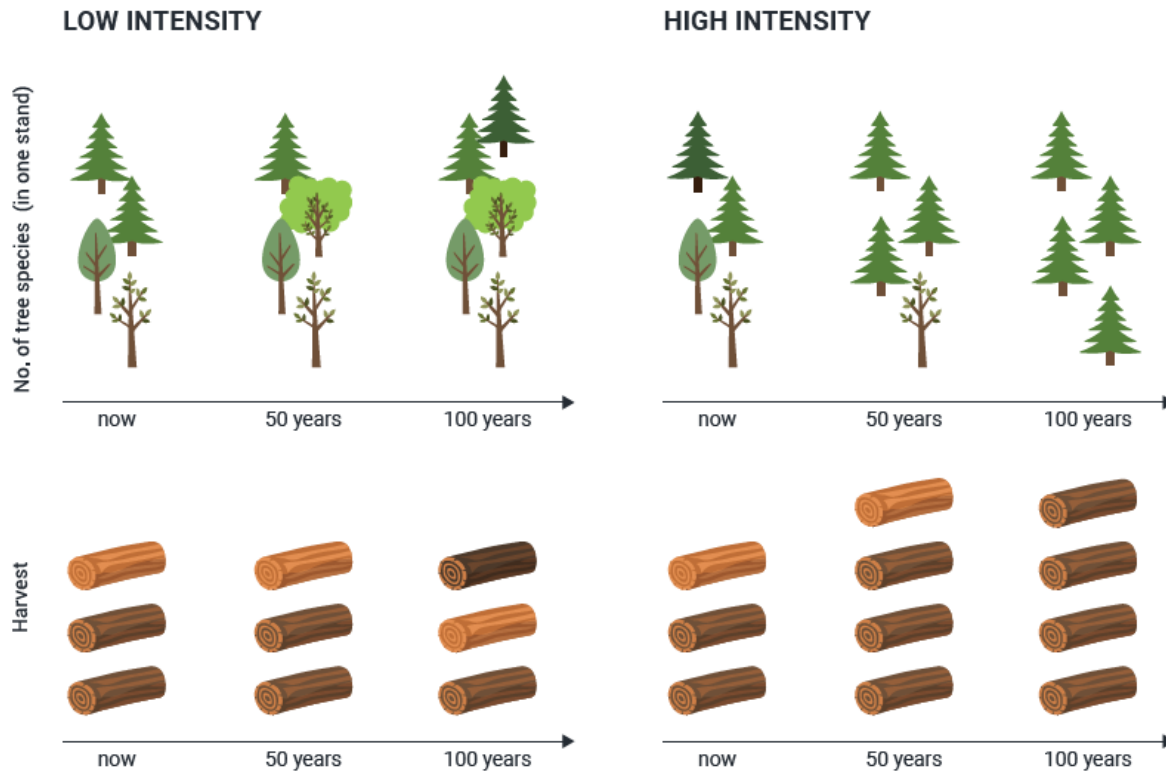


- Forest growth and development models to build digital forest twins on basis of forest inventories
- Models deliver 26 ecosystem services

4 Management scenarios:

- ➔ Business as usual
- ➔ High intensity timber production
- ➔ Low intensity timber production
- ➔ Passive Management

Results



Low intensity management practice leads to:

- ▶ wider wood assortment,
- ▶ more biodiversity.

High intensity management practice leads to:

- ▶ thinner wood assortment,
- ▶ less biodiversity.

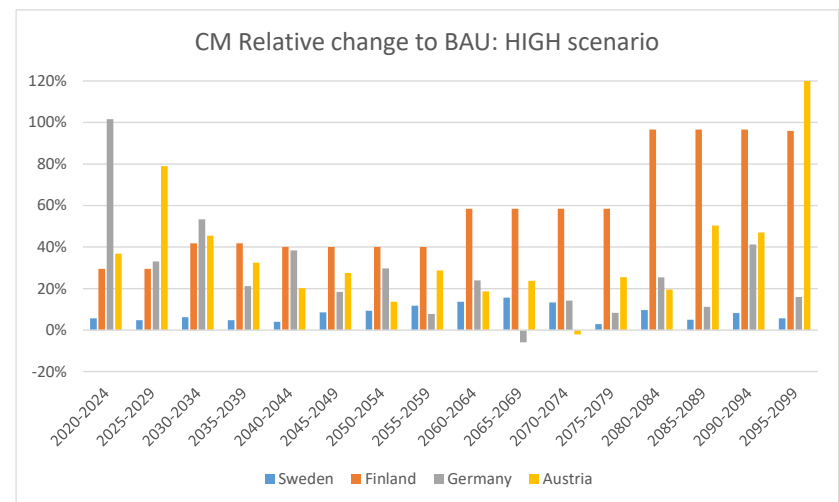
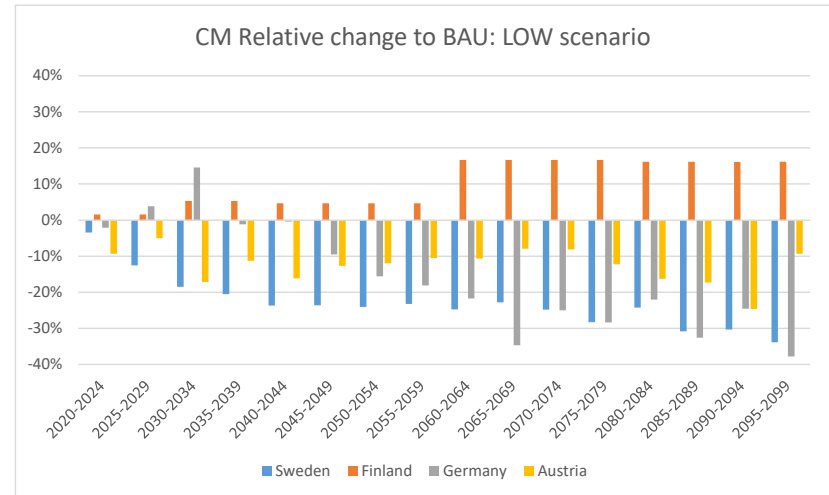
The presentation of the scenarios above is simplified.

Results

Economic output for small-scale forest owners

Decreasing profitability of small-scale forest owners under low intensity mgmt. due to

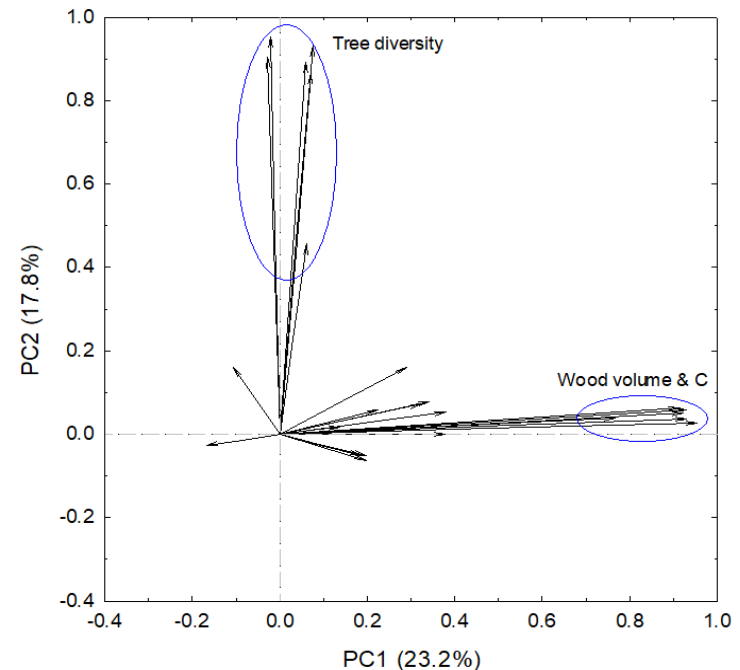
- ➔ changing cost structures (i.e. planting of deciduous trees, consulting, protection) and timber harvest
- ➔ changing timber assortments



Results

Multi-criteria assessment

- PCA of ecosystem services across management scenarios revealed 6 principal component
- Tree and stand diversity are not correlated wood volume and carbon storage
- Harvest regimes show very low relationships to diversity and carbon



Principal component	Finland	Sweden	Germany	Austria	Slovenia
Wood volume & C	PC1 (25.4)	PC1 (33.1)	PC1 (21.1)	PC1 (23.2)	PC1 (26.6)
Tree diversity	PC3 (18.4)	PC2 (16.1)	PC2 (19.2)	PC2 (17.8)	PC2 (17.4)
Dead wood volume & C	PC2 (18.5)	-	PC3 (17.9)	PC3 (16.1)	PC3 (15.7)
Deciduous	PC4 (8.9)	PC5 (9.0)	PC4 (11.6)	PC4 (12.1)	PC5 (8.5)
Stand age	PC5 (6.6)	PC4 (10.1)	PC5 (6.3)	PC5 (8.2)	PC4 (8.8)
Harvest & site	PC6 (5.7)	PC3 (10.2)	PC6 (5.0)	PC6 (4.7)	PC6 (4.2)
Cumulative %	83.5	78.5	81.1	82.1	81.3

Summary and impacts

- **Small-scale forest owners (SSFO) undergo substantial societal and environmental changes**
- **SSFO will like experience decreasing profitability especially in Central Europe**
- **Current subsidies do not reach SSFO sufficiently**
- **Many SSFO are open to contract based management to provide ecosystem services**
- **At large-scale: no single management strategy reasonable across Europe or even single countries – even no common understanding of management actions**
- **Future forest will provide a broader range of wood assortments for the industry**
- **Limited synergies among carbon storage and tree diversity across all countries**

Unexpected peculiarities / barriers

- Difficulties to receive data from paid-out forest subsidies even from EAFRD (i.e. in Germany connected to Länder!)
- Difficulties to reach small-scale forest owners itself (Northern Europe 👍, Central Europe 👎) – problems for EU surveys
- Translating forest management strategies into particular activities → the same activities might be considered “timber-oriented” or “nature-oriented” in different countries ... Science definitions 👍 but forest owner understanding 👎



The value of scientific cooperation

Bioenergy

CLIMATE CRISIS

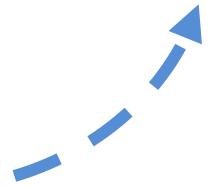
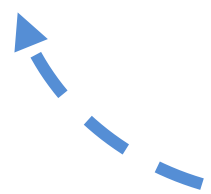
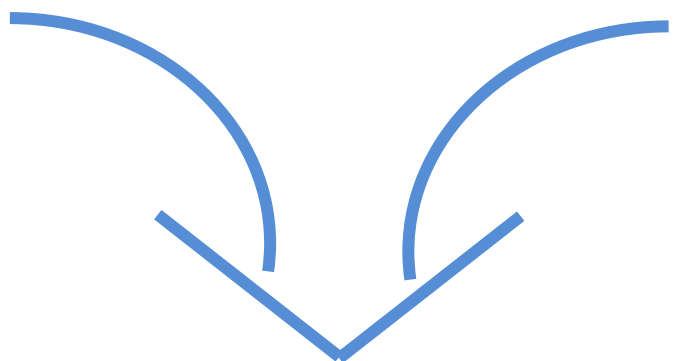
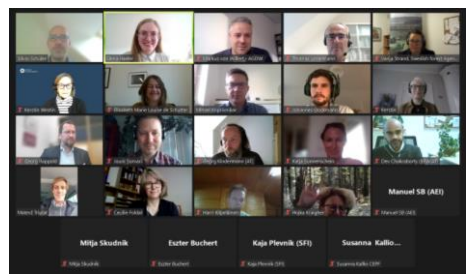
Adaptation

Rural livelihoods

Mitigation

Bioeconomy

Biodiversity crisis



New policies, i.e. EU Green Deal

Thank you!

Contact details

ForestValue

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