



European
Forest
Institute



Forest-based bioeconomy and ecosystem services: friends or foes?

A research perspective

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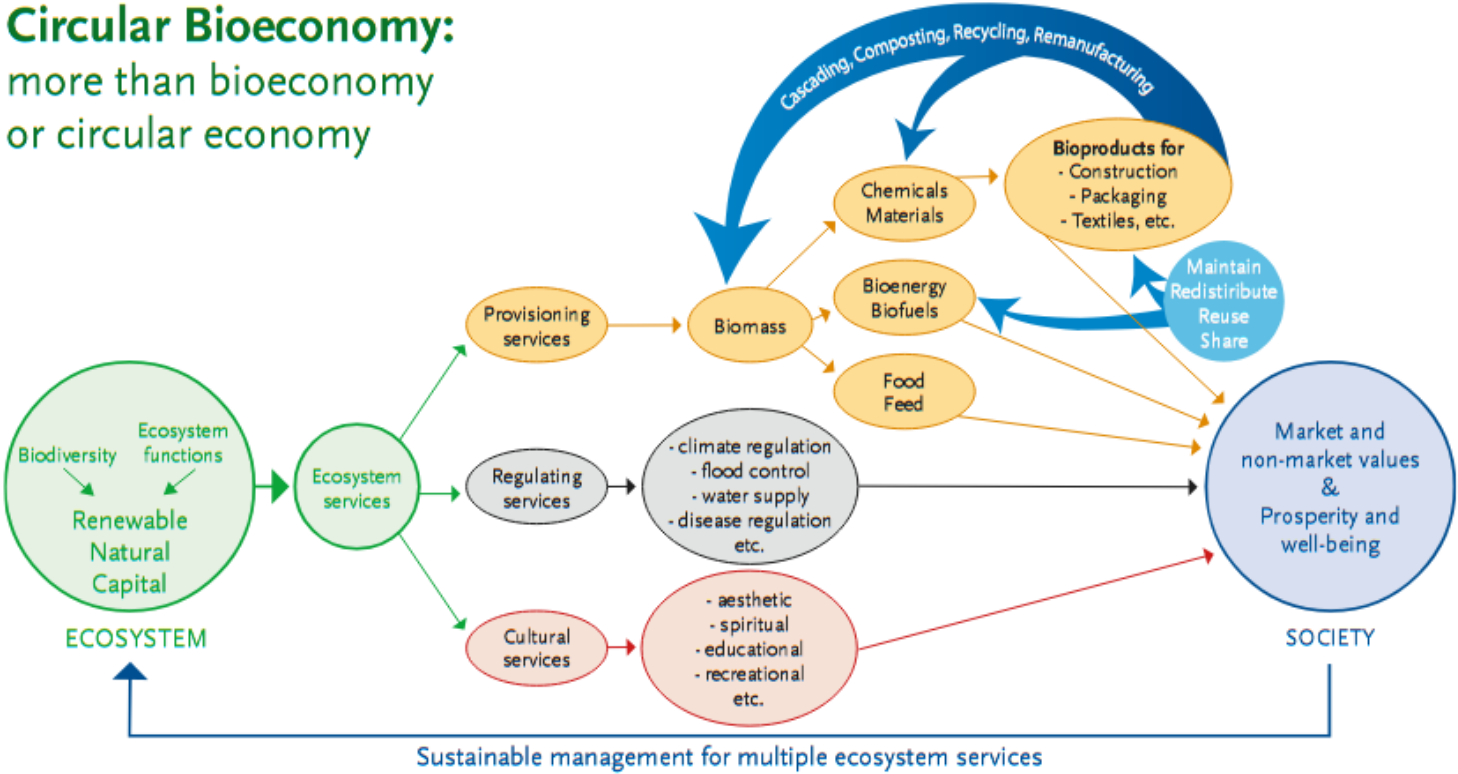
25.03.2026

European Forests...

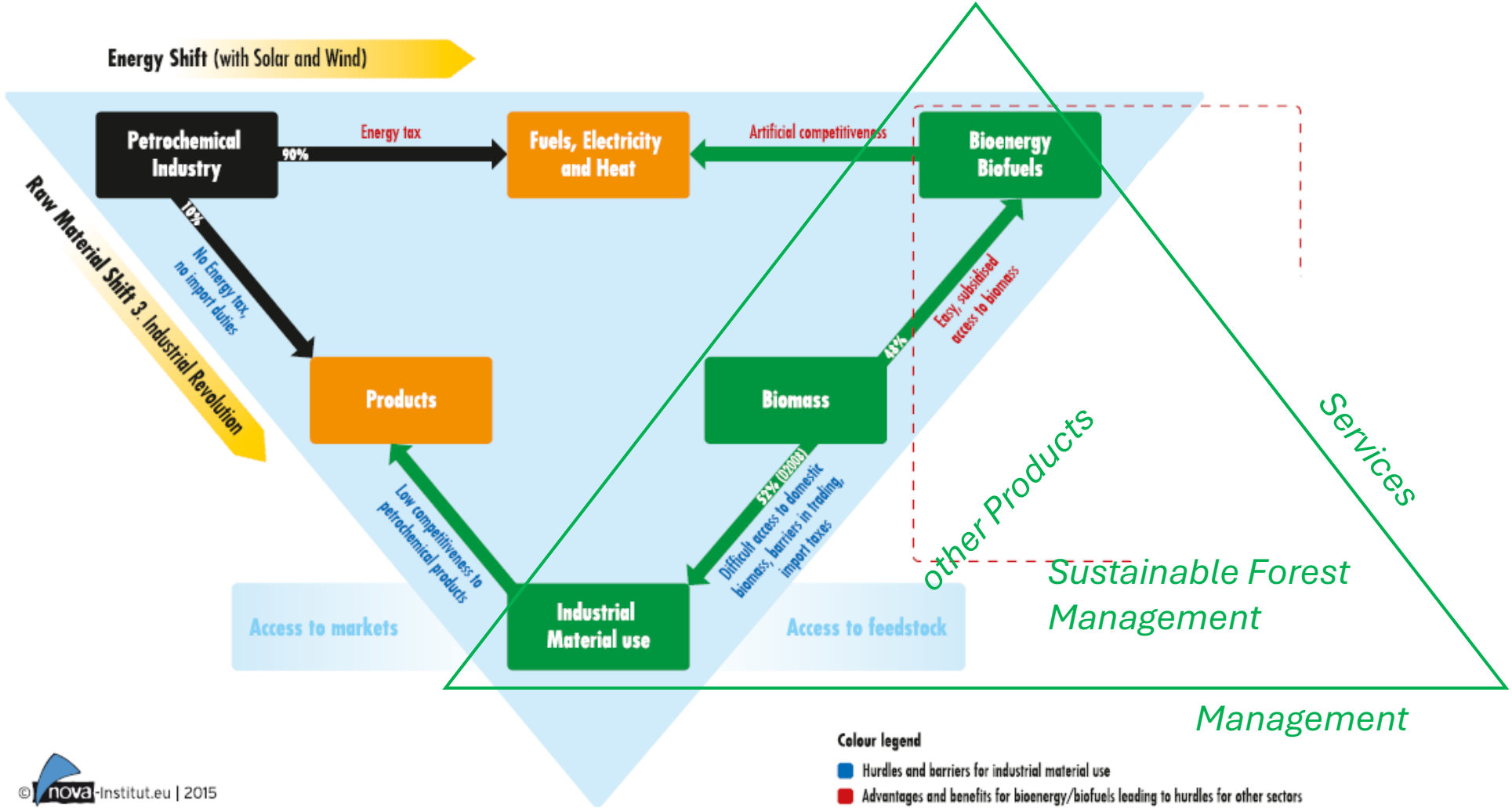


Forest in a bioeconomy – a broader view

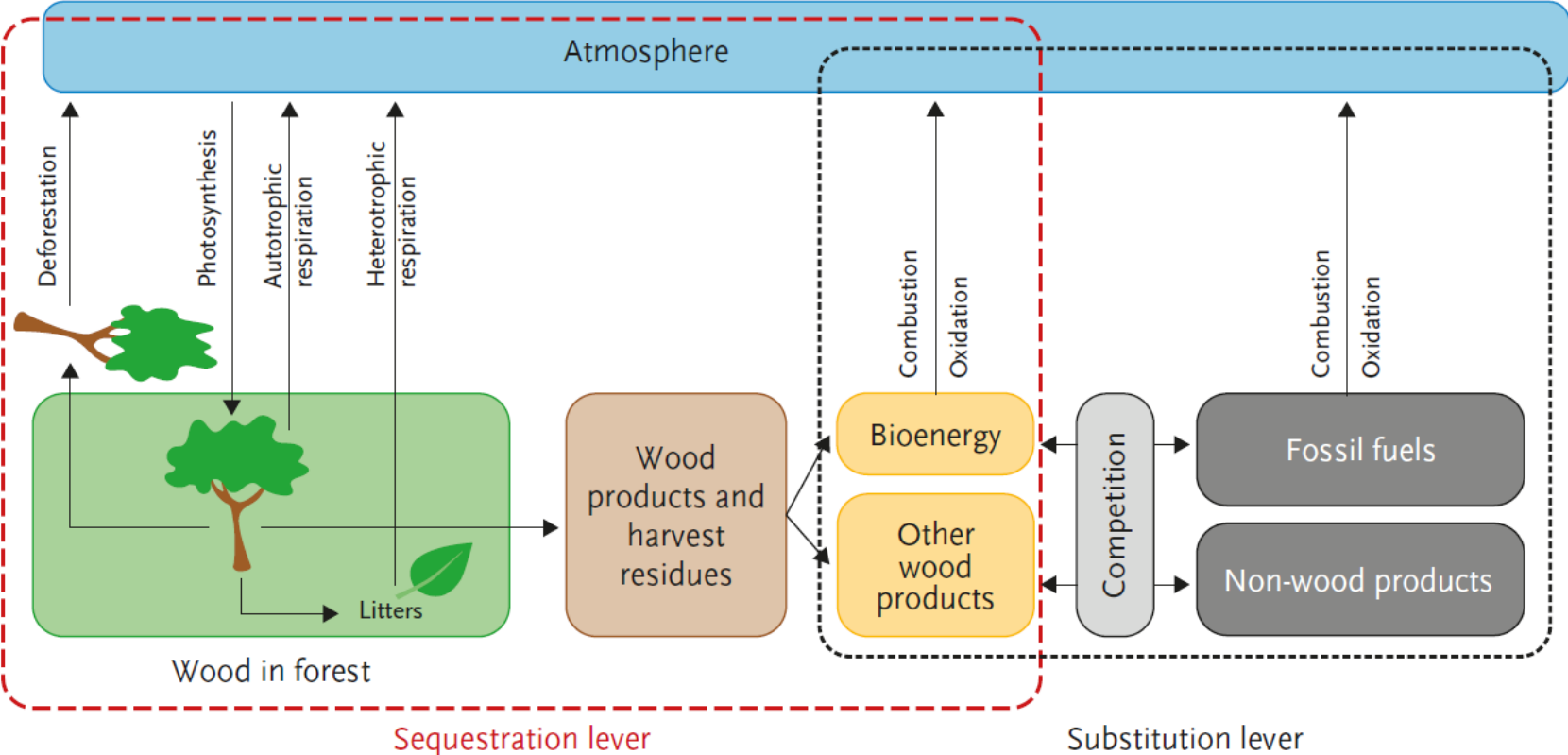
Circular Bioeconomy:
more than bioeconomy
or circular economy



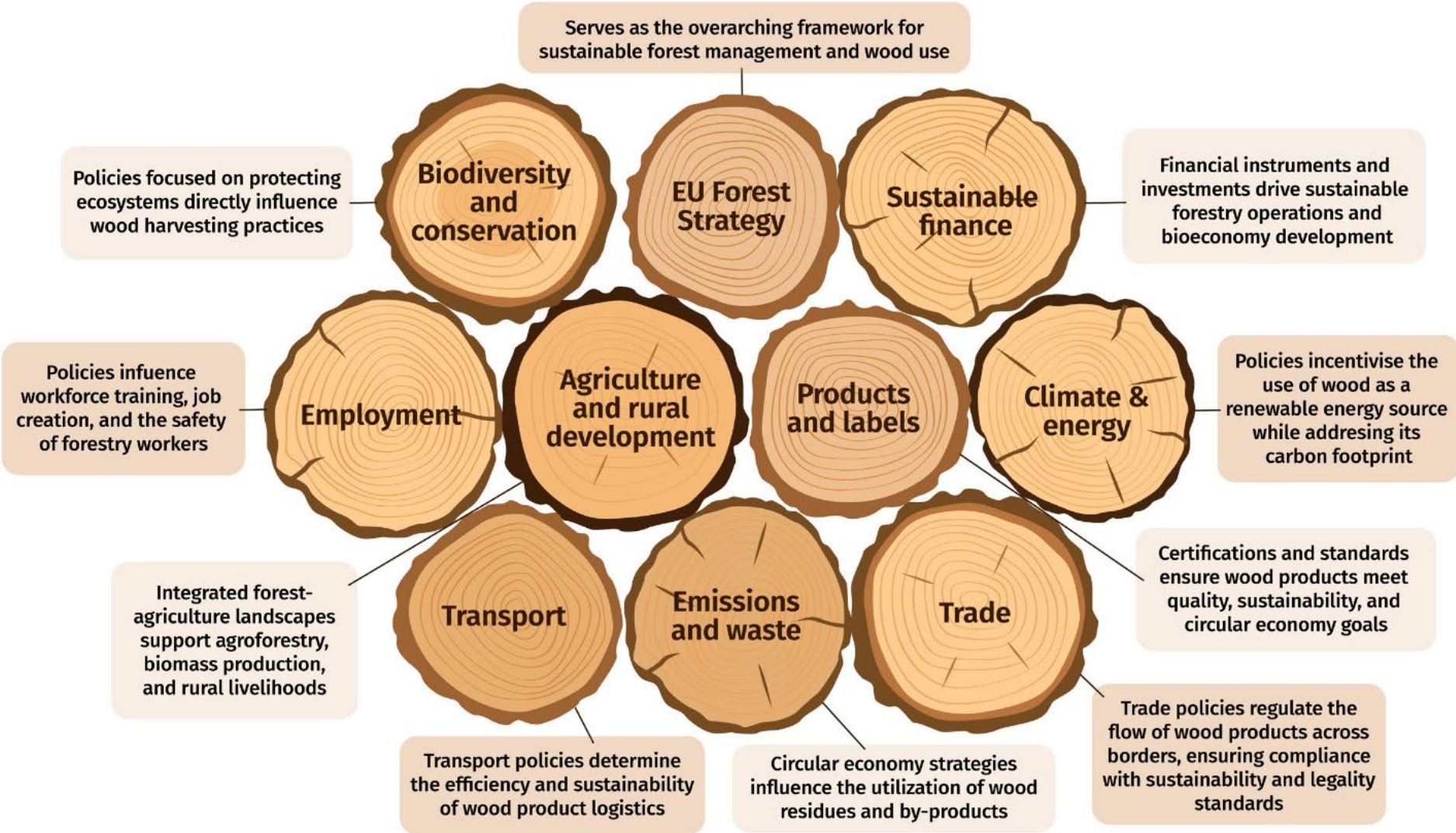
How to fit sustainable forest management



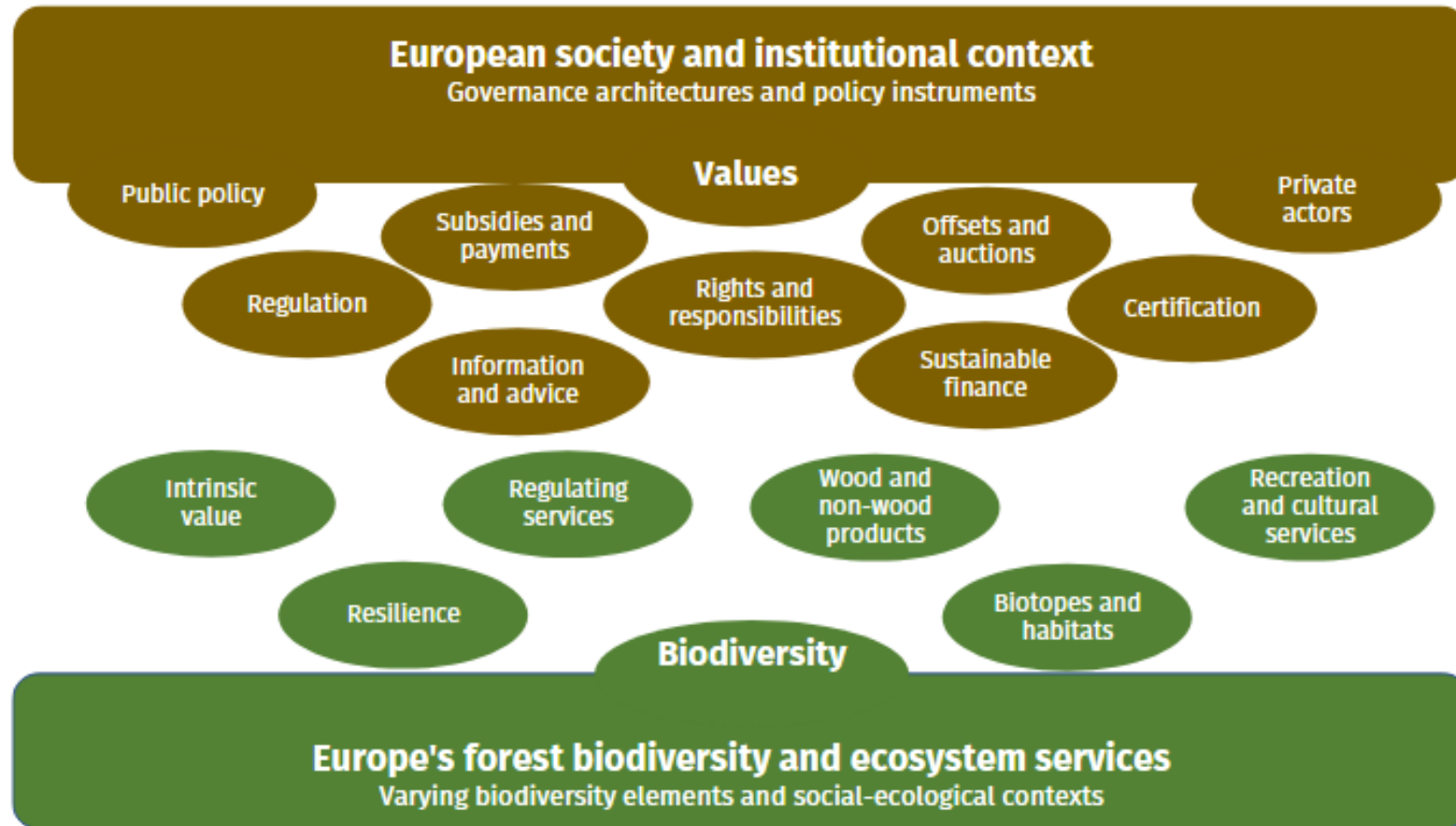
Forests' roles in climate change...



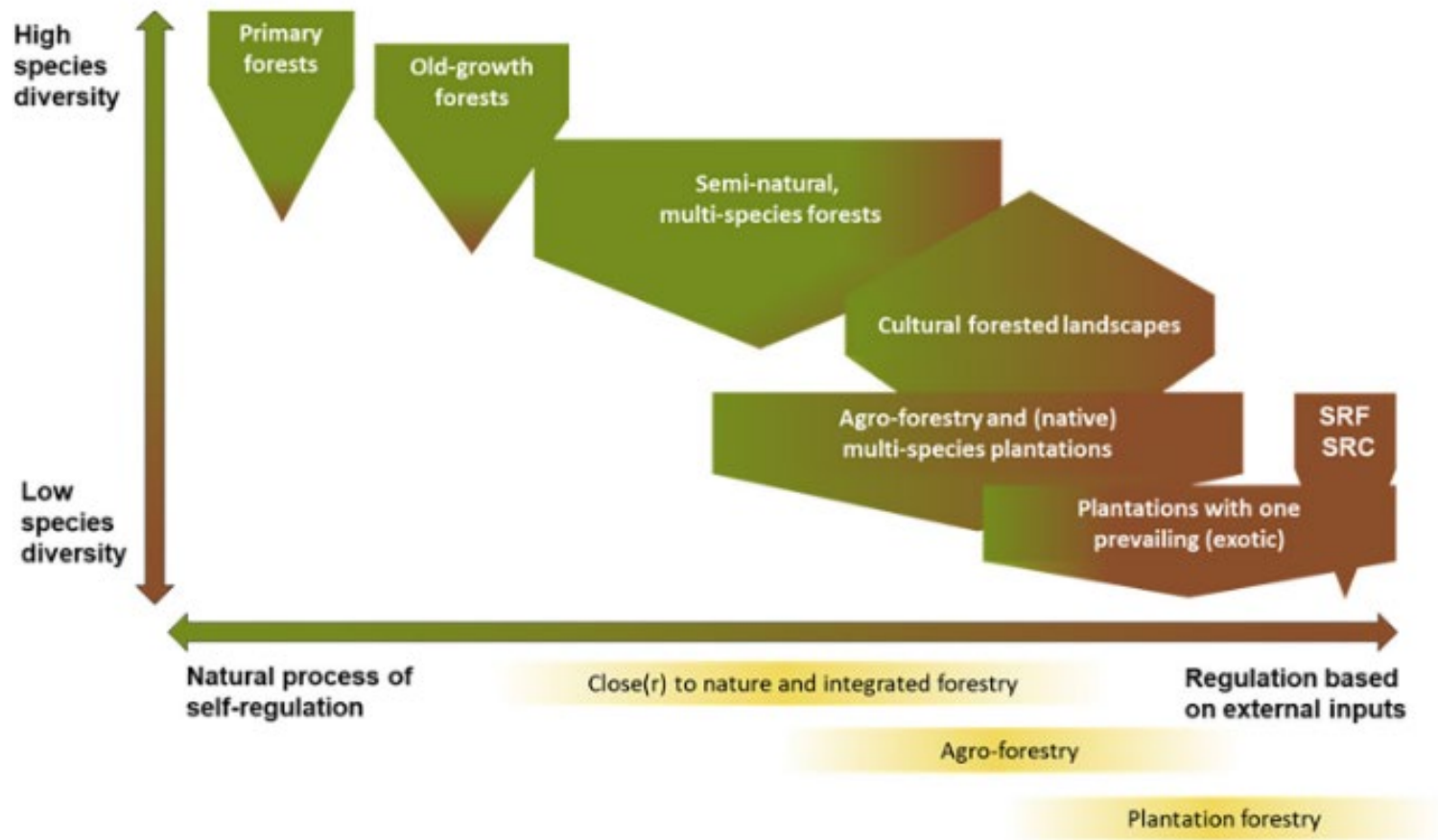
No foes – but utter complexity



Values and ecosystem services...



Stages of biodiversity management



SRF-SRC: Short Rotation Forestry-Coppices; GMO: Genetically Modified Organism; NBT: New Breeding Techniques

Key Indicators for Integrative Forest Management (IFM)



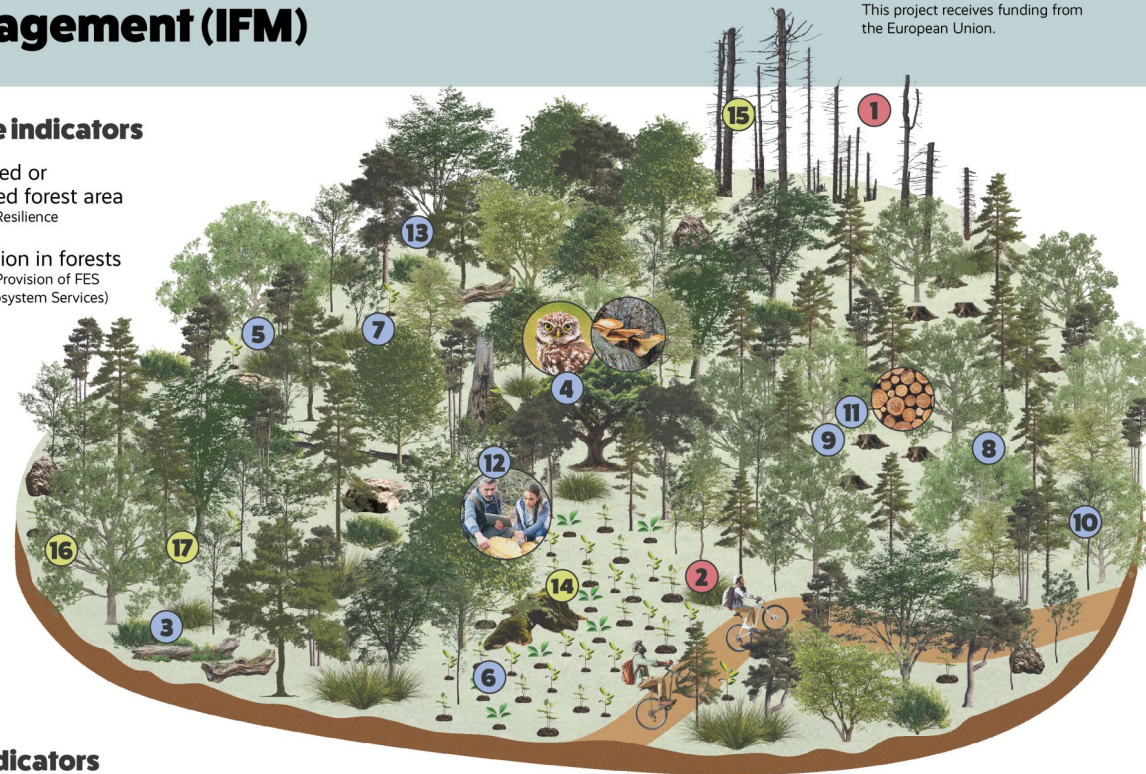
This project receives funding from the European Union.



TRANSFORMIT

Pressure indicators

- 1 Disturbed or damaged forest area
IFM goal: Resilience
- 2 Recreation in forests
IFM goal: Provision of FES (Forest Ecosystem Services)



Response indicators

- 14 Plan for the retention of valuable structures in forests
IFM goal: Biodiversity conservation
- 15 Forest risk mitigation and climate change adaptation plan
IFM goal: Resilience / Adaptive capacity
- 16 Forest management plan
IFM goal: Provision of FES
- 17 Protected forest area
IFM goal: Provision of FES

*FES (Forest Ecosystem Services)
*IFM (Integrated Forest Management)

State indicators

- 3 Dead wood
IFM goal: Biodiversity conservation
- 4 Habitat trees
IFM goal: Biodiversity conservation
- 5 Tree species abundance & distribution
IFM goal: Biodiversity conservation

- 6 Regeneration
IFM goal: Adaptive capacity
- 7 Native and non-native tree species/provenances and which of them are site-adapted
IFM goal: Adaptive capacity

- 8 Timber production potential
IFM goal: Provision of FES
- 9 Management intensity in forest area available for wood supply
IFM goal: Provision of FES
- 10 Forest carbon
IFM goal: Provision of FES

- 11 Revenue of forest enterprises
IFM goal: Provision of FES
- 12 Education and training
IFM goal: Provision of FES
- 13 Forest structure
IFM goal: Provision of FES / Resilience

Key messages

- We need **no more black and white thinking** in a crumbling world
- Forestry and the sector need **integrative solutions**, but look at proper scales
- Forests can contribute to **climate mitigation and biodiversity conservation**, within ecological limits
- Outcomes depend on how **trade-offs are managed in forest practices**
- Certification can contribute by:
 - translating objectives into **operational management requirements**
 - integrating **carbon, biodiversity, and resilience** in practice
 - enabling **consistent and verifiable implementation** across landscapes

Thank you for your attention!

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Connecting knowledge and action

