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OptFor-EU Mid-term Conference: OPTimising FOReSt management decisions for a low-carbon, climate resilient future in Europe

11 February 2025, Brussels



#ForestInnovation2025

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OptFor-EU Mid-term Conference

OptFor-EU Project: Presentation of preliminary results

Moderator: **Sorin CHEVAL** (Coordinator OptFor-EU)

- OPTimising FORest management decisions for a low-carbon, climate resilient future in Europe: **a brief introduction** about the project - **Sorin CHEVAL** (Meteo Romania)
- Co-creation of **Forest-Climate nexus data** - **Nicu Constantin Tudose** (National Institute for Research and Development in Forestry „Marin Drăcea”)
- Innovativeness of **Essential Forest Mitigation Indicators** - **Stefanie Linser** (BOKU University)
- Integrating **Climate, Forest, and Land Surface Models** to Enhance Sustainable Forest Management Practices and Carbon Sequestration - **Mauro Morichetti** (Consiglio Nazionale delle Ricerche)
- From science to practice: **the Decision Support System (DSS)** for forest managers - **Harald VACIK** (BOKU University)



Smart decisions for sustainable forest management

OPTimising FORest management decisions for a low-carbon, climate resilient future in Europe

Sorin Cheval

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Romania



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OPTimising FOReSt management decisions for a low-carbon, climate resilient future in Europe – OptFor-EU

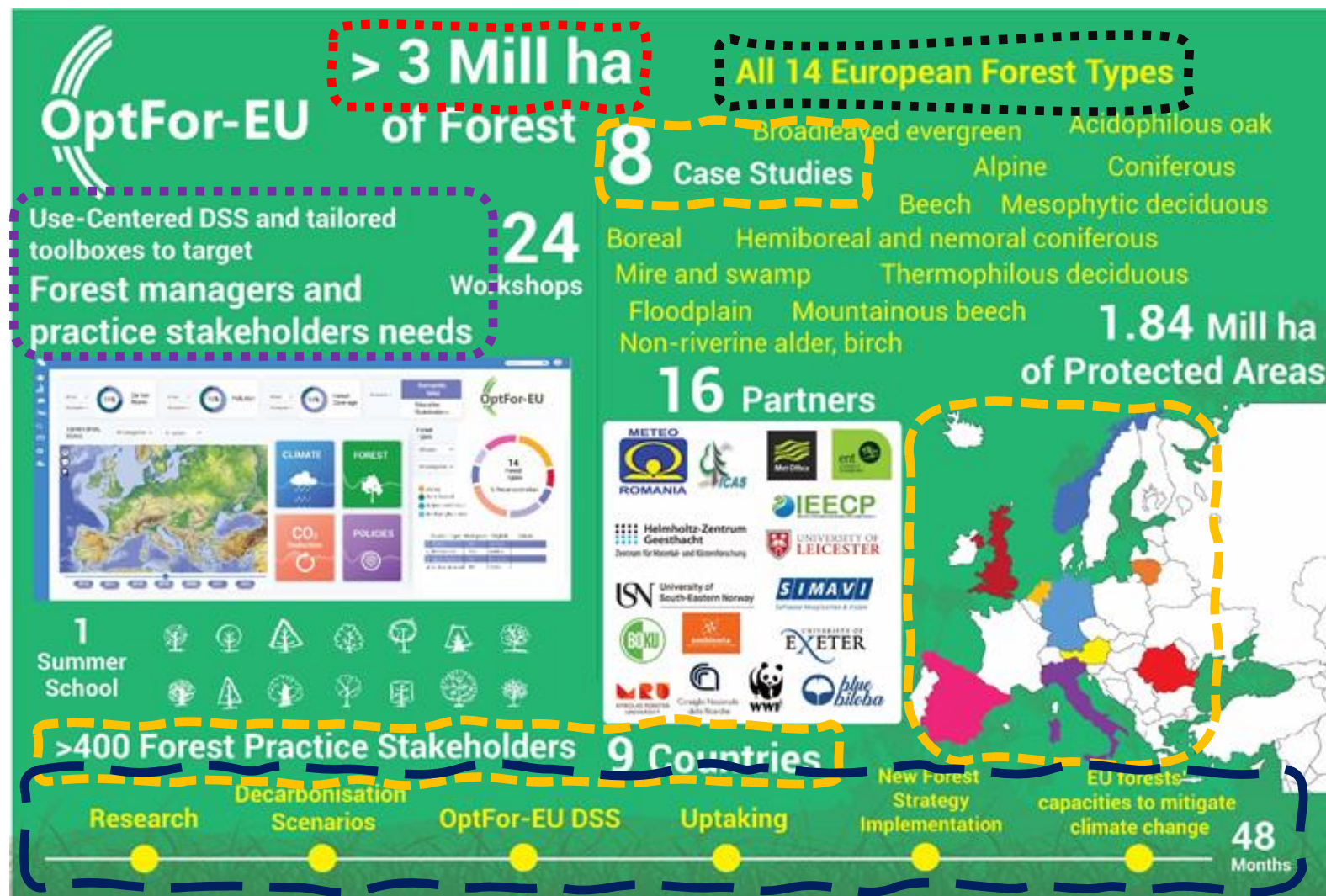


- ❑ **Call: Enhancing science-based knowledge on EU forests’, including old-growth forests, capacities to mitigate climate change**
- ❑ **TOPIC ID / Type of action:** HORIZON-CL6-2021-CLIMATE-01-09 / HORIZON-RIA Research and Innovation Actions
- ❑ **Duration:** 48 months (2023 – 2026)
- ❑ **Budget:** approx. 5M Euro (EC 4,289,077 + UKRI)



Primary objective and ambition

- Co-develop a **Decision Support System** to provide adaptation and mitigation options.
- Support the science-based **optimization of Forest Ecosystem Services** (incl. decarbonisation).
- **Enhance forest resilience** across Europe.

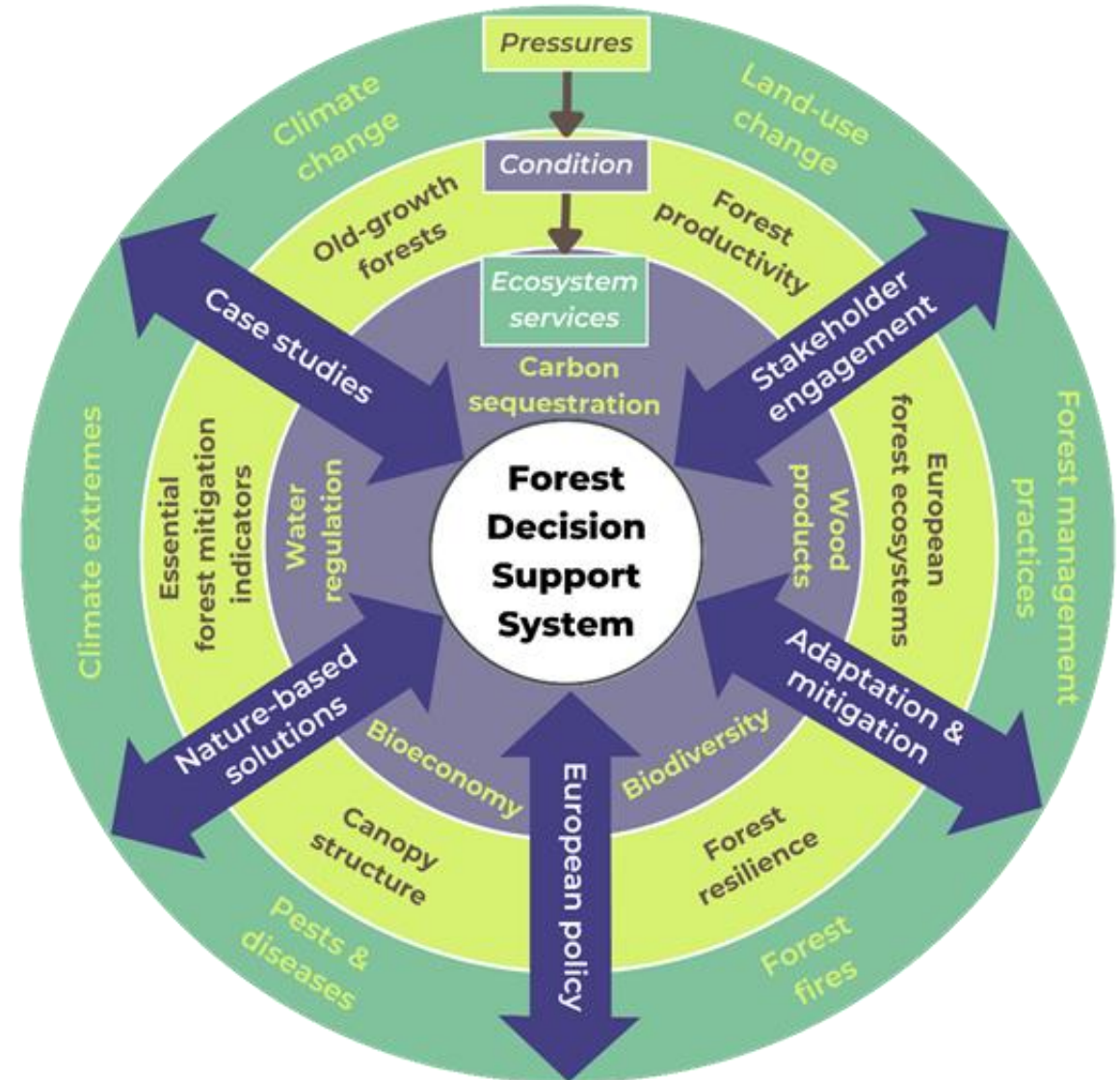




OptFor-EU concept diagram

The DSS is the central focus.

The OptFor-EU DSS incorporates data about External Pressures, Forest conditions, and Forest Ecosystem Services.





Specific Objective 1

Improve the characterization of
EU FES

Specific Objectives

- Improves **the science-based characterisation of FES** (e.g. carbon stocks and sinks) for EU forests, with a major focus on old-growth forests, supported by **co-development** with forest end users
- The **current state of FES*** and **future projections (i.e., 2050) are quantified** using (i) available datasets (e.g., in situ observations, reanalysis, and satellite remote sensing products; models and scenarios) and (ii) data collected within CSAs*

*FES: Forest Ecosystem Services

**CSAs: Case Study Areas



Specific Objective 2

Provide a focused FES modelling framework

Specific Objectives

- **Model simulations tackle the integration of European forests, including FMP*, in a scalable modelling framework that extends from CSA** to the European domain.**
- **Models are enhanced to improve the representation of forest land cover and FMP across Europe;** model simulations address the impacts of FMP, socio-economic and climate change scenarios on forest processes and FES***.

*FMP: Forest Management Practices

**CSA: Case Study Areas

***FES: Forest Ecosystem Services



Specific Objectives

- Based on scientifically-informed decisions that enhance FES* (including decarbonisation) and forest resilience.
- Deliver a ready-to-use solution for supporting current and future forest managers and other forest stakeholders **to better understand the differences and benefits between managed and unmanaged forests in terms of carbon sequestration.**

*FES: Forest Ecosystem Services
FMP: Forest Management Practices

Specific Objective 3

Empower forest managers and other stakeholders to implement sustainable FMP



Specific Objective 4

Develop a novel DSS to optimize
FMP

Specific Objectives

- Co-Develop **toolboxes** to ensure the stakeholder's requirements are addressed and the science-based solution provided by the DSS is **adopted into good practices**.
- Support forest managers to **identify optimal FMP* and NBS** for the provision of sustainable FES*** and resilient forest ecosystems across Europe**.

FMP*: Forest Management Practices

NBS**: Nature Based Solutions

FES***: Forest Ecosystem Services

DSS: Decision Support System



Specific Objective 5

Bridging (i) EU strategic priorities,
(ii) robust science, and (iii)
stakeholders' needs

Specific Objectives

- **Reduction in net emissions** of GHG related to FES*
- **Boost sustainable use of forest resources** (including the long-lived wood products), and
- Smooth **integration** of different economies and societal values at European scale

*FES: Forest Ecosystem Services



8 Case Studies across Europe to support the upscale of the results

Case Study Areas

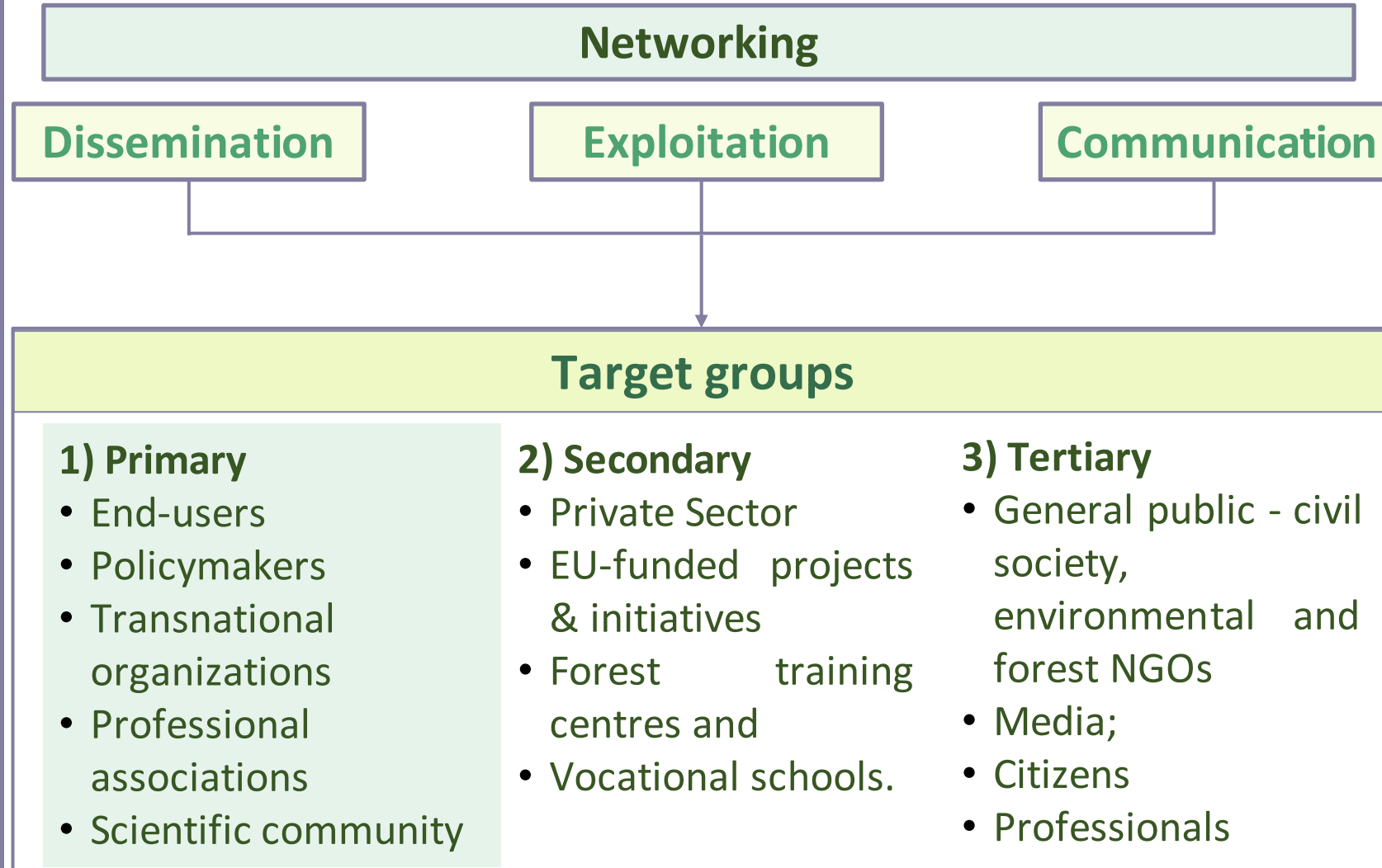
- CSA3 Wytham Woods
- CSA7 Extremadura pine forest
- CSA8 Florentine Mountains
- CSA1 Vestfold and Telemark Country
- CSA5 Biosphere Reserve Vienna Woods
- CSA4 Landesforsten Niedersachsen
- CSA6 Arges Vedeia Watershed
- CSA2 Cepkeliai-Dzūkija National Park





OPTimising FORest
management decisions for a
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Measures to maximise the impact



Takeaway message

- Co-develop a **Decision Support System** to provide adaptation and mitigation options.
- Support the science-based **optimization of Forest Ecosystem Services** (incl. decarbonisation).
- **Enhance forest resilience** across Europe.





Thank you

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