

Harnessing the potential of European forest ecosystem services: recommendations to advance decarbonisation and climate resilience

POLICY BRIEF #1



Forests offer essential **services** like carbon sequestration, biodiversity support, water regulation and timber for commercial activities/production. However, the future sustainability of such services is increasingly under threat. Based on the **habitats assessments reported under the Habitats Directive** updated in 2023, forestry presents the highest proportion of habitats being affected by one or more pressures/threats from a series of (not only) climate related categories.

This policy brief synthesises findings from the recent OptFor-EU report, highlighting **threats and challenges in achieving forest-based carbon removal** across eight European case study areas. The consortium conducted an extensive expert survey (a total of 168 responses) plus an inaugural series of stakeholder workshops in each area, between July and December 2023.

Leveraging on these activities, stakeholder feedback is used to inform the recommendations for harmonising forest management practices with European climate mitigation objectives. According to OptFor-EU's recent outcomes, the project results in various benefits beyond climate change mitigation, leveraging an advanced Decision Support System for science-based forest ecosystem services optimisation.

The project is dedicated to support the broader **Biodiversity strategy for 2030 and European Green Deal** frameworks, including carbon neutrality and ecosystem restoration.

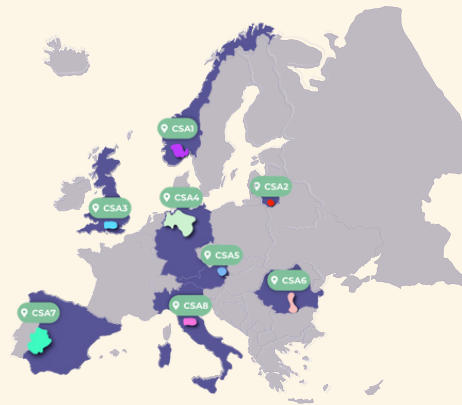
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Which areas do OptFor-EU's activities cover?

OptFor-EU covers all **14 European forest types**, over **3 million hectares of forest** including **1.84 million hectares** of protected areas. Within the project, eight case studies across European forests in **Austria, Germany, Italy, Lithuania, Norway, Romania, Spain and the UK** are involved.



Find out more about OptFor-EU eight case studies across European forests [here](#).

What are key challenges to achieve forest-based carbon removal targets?

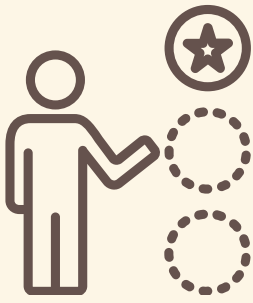
Observing the implementation of forest management practices on the ground is key for future planning purposes. OptFor-EU results reveal differences in the analysis of **168 actual stakeholders' perceptions**, at the regional and local levels and across countries.



Financial constraints. Respondents from Italy, Romania and Spain report that individuals' perceptions of environmental problems are affected by socio-economic circumstances and are largely impacted by uncertainties regarding the long-term risk of climate change. Notably, 91.1% of respondents recognise the necessity for increased resources and funding dedicated to financing long-term climate mitigation efforts.

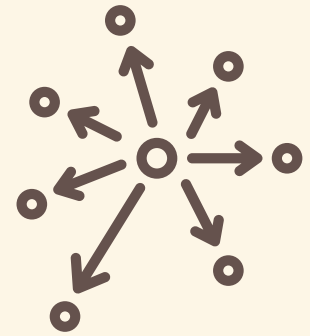
Information gaps. More than half of the respondents acknowledge the lack of awareness and credible information in regard to climate change. Among the most common barriers, the OptFor-EU expert survey highlights information accessibility, interpreted as the lack of data validity and variability, as well as language barriers.



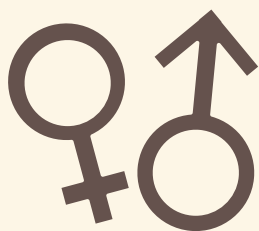


Social priorities. These often compete with one another, and Member States face the need to balance greater awareness and education on the importance of climate protection in forestry with other climate change related issues.

Governance and policy fragmentation. Identified challenges include unclear guidelines to support policy implementation and un-coordinated efforts among various stakeholders in the EU. Together with social barriers and lack of awareness (mentioned above), this does pose substantial threats to effective monitoring and exchange, creating inconsistencies in how decarbonisation strategies are delivered.



“The institutional framework exists, and governance mechanisms implement policies at European and international level. The prevention of the adoption of some strategies comes in the context of a lack of political stability or a lack of medium-long term planning”. [1]



Gender, beliefs and experience differences. OptFor-EU data show a notable difference in perception across gender and work experiences, often associated with diverse beliefs, behaviours and perceptions:

- Female stakeholders prioritise biodiversity over economic objectives more than their male counterparts, reflecting the need to develop multipurpose approaches to forestry and mitigation actions;
- Experienced professionals – especially with 10+ years of practice – exhibit greater reluctance about institutional ability to address climate challenges, indicating the need for enhanced policy clarity and support.



[1] Source: open-ended question from the expert survey developed under OptFor-EU which sought to identify participants' opinion on institutional frameworks and governance mechanisms that hinder the uptake of strategies for tackling climate change in forest management.

What are the key opportunities to achieve forest-based carbon removal targets?

Based on OptFor-EU findings, most experts state that their organisations' institutional settings are already aligned to a significant extent with the current EU and national climate mitigation targets. Nevertheless, **policy-practice harmonisation must be strengthened**. Based on experts' insights, this can be achieved through the following.



Collaborative (data) exchange for improved forest management information. Stakeholders need to share forestry management knowledge and consider information on forest management practices crucial for their institutions. Relevant contribution for collaborative data sharing is brought through the project, by co-developing a Decision Support System (DSS) with forest managers and other forest stakeholders. OptFor-EU offers them with suitable climate adaptation and mitigation options for science-based optimising forest ecosystem services (including decarbonisation).

Synergetic strategies to enhance forest resilience, including reforestation, biodiversity and other carbon sequestration strategies to boost forest carbon sinks potential. Synergies must be strengthened between national and EU policies to ensure consistent implementation of climate resilience measures. OptFor-EU promotes cross-sector partnerships involving forest managers, policymakers, and civil society to enhance engagement and education on sustainable practices.



Innovative tools. To this end, OptFor-EU encourages and supports Member States to use additional tools and models (DSS architecture, Dashboard Visual Interface for forest manager and more) to foster more low-carbon forest management practices in the implementation of climate change mitigation and adaptation policies and, offering potential synergies for carbon reduction across Europe.

Funding of forest management practices should be guided by science-based information often rooted in local datasets. However, often this decision becomes political.



Low-carbon forestry management legislation, how does it work?

Forest policy making in the European Union entails a degree of complexity. Forest-related legislation as illustrated by Pülzl [2] (2023) originates from proposed legislative texts within and by the European Commission. Because “forests are not mentioned directly in the Treaties of the European Union, the Commission can act only in related areas where it is competent to do so”. In other words, forest-related regulations are dictated by national requirements and context-bound areas of interest. This means that national policy—and decision—makers, advisers, and national ministries have a crucial role in informing the relevant EU General Directorate(s) on how to draft appropriate forest strategies and laws. Not only can national actors influence the core topics for new forest legislation, but they are equally critical for its practical implementation at the national and sub-national governance levels.

This is how the Forest strategy guidelines were drafted prior to their publication in 2021. The two set of guidelines each represent a significant milestone in the decarbonisation of the forest sector:

- The Guidelines on Biodiversity-Friendly Afforestation, Reforestation and Tree Planting aims to support the pledge for planting 3 million additional trees in the EU by 2030, in urban, peri-urban and agricultural land areas;
- The Guidelines for Defining, Mapping, Monitoring and Strictly Protecting EU Primary and Old-Growth Forests support national decision-makers in identifying and protecting remaining primary and old-growth forest in the EU in the fight against the climate crisis.

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Former Commissioner for the Environment, Oceans and Fisheries, Virginijus Sinkevičius, stated: “[...] Today’s guidelines will help reach two key objectives – on the one hand, that we protect our primary and old-growth forests, of which so few remain in Europe, and on the other, that we increase the number and quality of forests by following the principle of ‘the right tree on the right place’ [...] to enjoy green legacies for years to come”. [3]

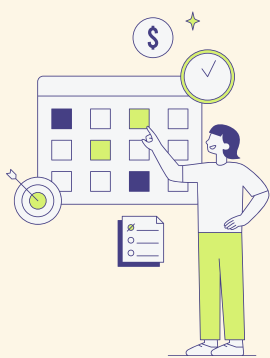
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[2] Helga Pülzl is Assistant Director for Policy Support of the European Forest Institute and responsible for the Policy Support Facility and its Trust Fund.

[3] Source: [EU forests: Commission adopts new guidelines to support tree planting actions and to protect old-growth forests - European Commission \(europa.eu\)](https://ec.europa.eu/forests/news/eu-forests-commission-adopts-new-guidelines-to-support-tree-planting-actions-and-to-protect-old-growth-forests).

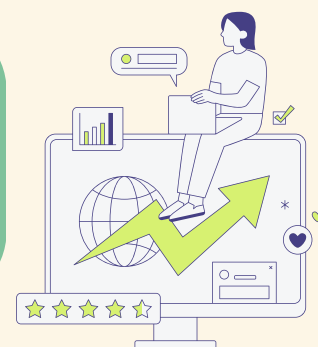
A way forward for key stakeholders on forest policy: recommendations

By considering financial, governance, and societal challenges, the EU can unlock the full potential of forests in the fight against climate change. The OptFor-EU project provides a critical pathway to achieving these targets:



Reinforce strategic priorities related to the Forest-Climate nexus, such as the New EU Forest Strategy, which promotes “forest management practices within national policy frameworks to reduce emissions, sequester carbon and build forest resilience, by using EU funds and best knowledge” (European Commission, 2018). Within the OptFor-EU scope, future perspectives regarding forestry practices, forest ecosystems and climate change will be embedded as inputs for the project Decision Support System.

Adopt technology-driven solutions for better outcomes. Scale up the usage of digital tools, such as GIS mapping, remote sensing, and AI, to identify optimal planting sites, establish robust monitoring of project progress, and assess the impacts on biodiversity and ecosystem services (reporting).



Explore Climate-Smart Forestry. CSF is seen as the missing link in the decarbonisation strategies, integrating carbon mitigation with water conservation, biodiversity and other targets. Some of OptFor-EU experiences clearly show that these practices have the potential of speeding up the implementation of the European Green Deal and the objectives of the Paris Climate Agreement, by finding the optimal trade-off between carbon up-take and other forest ecosystem services at user scale. [4]

[4]Additional sources: OptForEU published an “Interim report on project’s response to European Green Deal and New EU Forest Strategy”, including a detailed overview of their objectives and targets (Chapter 3). [Access the full public report.](#)

Enhance multi-stakeholder collaboration. Policy and governance opportunities for national decision-makers and authorities require collaborative action, knowledge sharing and synergies with other key stakeholders, included but not limited to: civil society groups for increasing engagement and education of e.g. local communities on FES, forest managers incorporating different solutions (biodiversity, water conservation, tree—planting, etc.) in FMP, as well as the integration of sustainable forest management practices by landowners.



Strengthen financial sustainability. Long-term political commitment should develop in parallel to robust funding mechanisms grounded in science-based strategies, ensuring the viability of long-term forestry initiatives, moving towards a climate resilient future in Europe.

About the project

OptFor-EU aims to co-develop a Decision Support System (DSS) with forest managers and other forest stakeholders, that provides them with suitable climate adaptation and mitigation options for science-based optimising forest ecosystem services (FES) (including decarbonisation) and enhancing forest resilience and its capacities to mitigate climate change (CC) across Europe.



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