EU CAP NETWORK

PROJECT - RESEARCH AND INNOVATION

Small4Good: Sustainable multifunctional management by small forest owners in support of bioeconomy, biodiversity and climate

PROJECT IDENTIFIER: 2024HE_101135517_SMALL4GOOD

Discover website

Innovation, knowledge exchange & EIP-AGRI

ONGOING | 2024 - 2027

Spain, Germany, Romania, Norway, Switzerland

Context

The EU Forest Strategy, part of the European Green Deal and the EU Biodiversity Strategy for 2030, is crucial for achieving the EU's biodiversity objectives and reducing greenhouse gas emissions by at least 55% by 2030. Key measures include promoting sustainable forest management, encouraging the sustainable use of wood-based resources, providing financial incentives for eco-friendly practices, improving forest size and biodiversity, and promoting alternative forest industries like eco-tourism and non-wood products.

The behaviour of Europe's approximately 16 million forest owners is central to achieving desired biodiversity and ecosystem service (BES) provision, including carbon storage. However, small-forest owners often lack knowledge and are relatively inactive managers. Addressing this challenge is essential; these owners must become active managers and custodians of Europe's forests. Therefore, the general measures in the Forest Strategy must be tailored to be attractive and relevant to small-forest owners, adapting to the wide variety of contexts found in the EU.

Our vision is a future with improved BES provision from Europe's forests through sustainable and multifunctional management by active and motivated small-forest owners. This management will be locally adapted and designed through participatory co-creation

processes but aligned with the overall ambitions of the EU Forest Strategy. Multifunctional management will be enabled with customized carbon farming and Payment for Ecosystem Services (PES) schemes tailored for small-forest owners, supported by artificial intelligence (AI) and digital solutions to engage and support management.

Objectives

The overall objective of the project is to enable and activate small forest owners to safeguard biodiversity and enhance ecosystem service provisioning in Europe's forests. This will be achieved through local multifunctional management supported by financial PES schemes and AI technical support. The project focuses on establishing living labs (LLs) as innovative ecosystems in real-life environments. These LLs, utilizing a co-creation process, use iterative feedback and a lifecycle approach to co-create innovations, rapidly test, and scale up, providing joint value to stakeholders. LLs act as intermediaries among citizens, research organizations, companies, and government agencies, serving as lighthouses to guide other parts of Europe. Another key objective is to improve the understanding of motivations and barriers to multifunctional management among small forest owners within LLs and across Europe.

The project also aims to develop tailored business models, aimed at multifunctional forest management supported by Payment for Ecosystem Services (PES) schemes. These models ensure financial returns for multifunctional management, encouraging active ownership and improved forest management beyond timber sales. Additionally, the project targets the development of effective multifunctional forest management models, including silvicultural systems and operations, to enhance ecosystem service capacity and support the EU Forest Strategy for 2030.

Another important aspect involves creating AI-based and other digital tools to engage and support small-forest owners in multifunctional forest management. By leveraging rapid advancements in technology and AI, these tools will facilitate the transition to multifunctional management, overcoming barriers identified in the business and management models. This approach will enable small-forest owners to implement effective management strategies, fostering sustainable and multifunctional forest management across Europe.

Activities

The Small4Good project employs four Living Labs (LLs) in Nordic (Norway), Eastern (Romania), Central (Germany/Switzerland), and Southern (Spain) Europe. These LLs serve

as open innovation ecosystems, integrating research and innovation processes in representative environments. Each LL collaborates closely across the project’s five research work packages (WPs) to ensure comprehensive stakeholder engagement and to address innovation adoption and upscaling barriers.

WP1 establishes and runs the LLs and organizes workshops, demonstrations, and excursions to engage local and regional stakeholders, ensuring broad support for multifunctional management approaches. These LLs will act as good practice examples central to the dissemination strategy aimed at forest owner organizations and forest owners across Europe.

WP2 focuses on understanding the motivations and barriers for multifunctional management by small-forest owners, particularly within the LLs and across Europe. By analysing and clustering forest owner types according to their motivations, WP2 identifies starting points for integrating ecological needs and forest owners' capabilities into business and management models. PES schemes and carbon farming are central to realizing multifunctional management on a large scale, and WP2 investigates forest owners' preferences for these schemes' design properties.

WP3 aims to identify individual and collective business models tailored to small-scale forest properties owned by traditional and non-traditional forest owners. The models are based on motivations and barriers identified in WP2, ensuring owners maintain or improve financial returns while providing products for a forest-based bio-economy and contributing to carbon storage and biodiversity protection. WP3 will compare current business models across the LLs, identifying leverage points for innovative management supported by appropriate institutional arrangements. Promising business models will be further developed and discussed with local actors in the LLs, then refined into actual business models for specific properties.

WP4 translates the business models from WP3 into concrete recommendations for silviculture and operation systems. These models aim to improve smallholders' forest quality for ecosystem services, support the EU Forest Strategy for 2030, and adapt management practices to climate change. Operational systems focus on efficient low-volume operations using small-sized equipment and emerging technologies like AI, robotics, and sensing. Selected systems will be implemented and analysed in LLs for costs, environmental impacts, and ability to support the generation of ecosystem services, iteratively refined with input from WP3.

WP5 develops digital tools and applications to support multifunctional management and engage small-forest owners actively. This includes visualization tools for understanding management options, easy information collection using cell phones and drones, and an AI assistant for forest management. WP5 also aims to integrate open data into a dashboard for forest owners, providing comprehensive forest information. All digital solutions and AI systems will be developed and tested in conjunction with actual forest owners in the LLs.

Project details

Main funding source

Horizon Europe (EU Research and Innovation Programme)

Type of Horizon project

Multi-actor project

Project acronym

Small4Good

CORDIS Fact sheet

Project contribution to CAP specific objectives

- Increasing competitiveness
- Climate change action
- Environmental care
- Preserving landscapes and biodiversity
- Supporting generational renewal
- Vibrant rural areas
- Fostering knowledge and innovation

Project contribution to EU Strategies

- Achieving climate neutrality
- Protecting and/or restoring of biodiversity and ecosystem services within agrarian and forest systems
- Fostering biodiversity friendly afforestation and reforestation

EUR 7 560 827.00

Total budget

Total contributions including EU funding.

EUR 5 999 830.00

EU contribution

Any type of EU funding.

Project keyword(s)

Biodiversity and nature

Climate change (incl. GHG reduction, adaptation and mitigation, and other air related issues)

Competitiveness/new business models

Digitalisation, incl. data and data technologies

Forestry

Resources

Links

- LinkedIn account
- X (former Twitter) account
- Linktree to all online resources

1 Practice Abstracts

The Small4Good Living Labs

The Small4Good project aims to develop solutions that support the 16 million small European forest owners in their sustainable and multifunctional management of climate-resilient forests, all within the context of forest policy targets and increasing their contributions to the European Green Deal. To achieve this, four Living Labs (LL) have been implemented across Europe: Norway, Romania, Central Europe, and Spain. These LLs can be described as “real life” experimental sites, where science meets local forest owners to co-create and test new business models, financial incentives, and management strategies for ecosystem services, as well as innovative harvest machinery and digital tools (AI) for their management support. Through a collaborative “living lab” (LL) approach in the four regions mentioned above, these LLs focus on addressing region-specific challenges while promoting sustainable and multifunctional forest management, which can then serve as a foundation for all small-forest owners engaged in sustainable and multifunctional management.
Each LL thereby focuses on specific challenges of European small forest owners. While the LL North (NO) looks at the transfer from large-scale clear-cutting to more sustainable practices, such as mainly continuous cover forestry, the small forest owners of LL East (RO) face challenges of fragmented properties, restrictive regulations, and insufficient knowledge. In LL Central (CH/DE), small-scale forest owners struggle with climate change impacts and lack of organizational support, whilst in LL South (ES), the LL focuses on diversifying forest uses beyond non-timber products like resin and pine nuts and resolving issues of fragmented ownership and administrative barriers.

Project leaflet

Living Lab North infosheet

Living Lab Central infosheet

Living Lab East infosheet

Living Lab South infosheet

Geographical Location

Norge

España

Deutschland

Schweiz/Suisse/Svizzera

România

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