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Alpine Space

Forest EcoValue

ALPINE REGION WINTER SCHOOL

D.3.2.2

RESPONSIBILE PARTNER: LGCA / PP7, UNIGRAZ / PP8

Interreg Alpine Space

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Forest EcoValue

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Carbon neutral and resource sensitive Alpine region
SO 2.2: Promoting the transition to a circular and resource efficient economy

Forest EcoValue:
Supporting multiple forest ecosystem services through new circular/green/bio markets and value chains

Project ID: ASP0100005

List of the Forest EcoValue project partners

PP1. Finpiemonte SpA – Regional financial and development agency / **Coordinator** [FINPIE]
PP2. Lombardy Foundation for the Environment – Fondazione Lombardia per l'Ambiente [FLA]
PP4. National Research Institute for Agriculture, Food and Environment – Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement [INRAE]
PP5. Slovenia Forest Service – Zavod za Gozdove Slovenije [ZGS]
PP6. Institute for Environmental Planning and Spatial Development GmbH & Co. KG – Institut für Umweltplanung und Raumentwicklung GmbH & Co. KG [Ifuplan]
PP7. Lombardy Green Chemistry Association – Cluster Lombardo della Chimica Verde [LGCA]
PP8. University of Graz, Institute of Environmental Systems Sciences [UNIGRAZ]
PP9. Regional Centre for Forest Property Auvergne-Rhône-Alpes – Centre Régional de la Propriété Forestiére [CNPF]
PP10. The French National Forest Office – Office National des Forêts [ONF]
PP11. Hozcluster Steiermark – Woodcluster Styria [HCS]

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Summary

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Glossary

CICES – Common International Classification of Ecosystem Services

CNPF – Regional Centre for Forest Property Auvergne-Rhône-Alpes

ES - Ecosystem Services

FES – Forest Ecosystem Services

FLA – Lombardy Foundation for the Environment

INRAE – National Research Institute for Agriculture, Food and Environment

LGCA – Lombardy Green Chemistry Association

LL / LLs – Living Lab / Living Labs

MES – Markets for Ecosystem Services

PES – Payments for Ecosystem Services

UNIGRAZ – University of Graz

1. Introduction

This deliverable reports on the **Alpine Region Winter School**, organised within the framework of the Forest EcoValue project as part of the WP3. The capacity building event was addressed to a selected number of public and private actors from the Alpine area, with a focus on Forest Ecosystem Services (FES), enabling conditions for ecosystem service markets (MES), business models and forest-based value chains.

The Winter School was conceived as a transnational capacity biulding initiative aimed at strengthening the knowledge and practical capacities of stakeholders interested in the sustainable valorisation of FES in the Alpine region. The event addressed the need, highlighted by the project, **to increase awareness and operational capacity among forest owners, forestry operators, public administrations, clusters and other relevant actors.** In particular, it was designed to promote a clear understanding of the project's outputs, methodologies and tools, and to actively support their uptake, adoption and practical application during and beyond the project lifetime.

The Alpine Winter School was held **online via Zoom** over three consecutive afternoons on **December 2-4, 2025**, from 14:30 to 17:00 CET, under the title "**Alpine Winter School 2025 – Markets and business models to support forest ecosystem services & sustainable forest management**". The programme was structured into three complementary modules: a theoretical module on the first day, a practical workshop on the second day, and a policy and engagement module on the third and last day.

The event was designed to bridge scientific, economic, practical and policy perspectives on FES. In coherence with the overall Forest EcoValue approach, the Winter School focused on how to recognise, assess, and valorise Forest Ecosystem Services through innovative business models, market frameworks and enabling governance conditions.

The relevance of the event was further confirmed by the **participation of 30 attendees** from across the Alpine region.

2. Project overview

Forests of the Alpine Space play a key role in climate change mitigation and resilience, providing multiple ecosystem services (ES) and environmental and social benefits such as CO_2 absorption, air pollution reduction, biodiversity enhancement, and protection against natural hazards. However, they are threatened by abandonment, climate change, and territorial degradation, which progressively reduce natural resources and the provision of forest ES (FES). Maintenance costs of Alpine forests are high, and public funds and traditional wood value chains are insufficient to cover them. Economic valuation and payment schemes for FES are widely discussed but rarely successfully applied.

The Forest EcoValue project addresses this challenge by developing innovative, sustainable business models for forest management and maintenance, supporting new bio-based value chains and ES markets, and involving different sectors, public and private actors, and citizens. Restoring and maintaining healthy forests has been recognised as a source of value for the Alpine region, while also creating business opportunities and green jobs for Alpine communities.

The project focuses on a subset of FES from the following categories:

1. **Provisioning** (e.g. biomass, raw materials, chemicals) with a specific focus on non-timber forest products, and on the production of woody biomass for energy, integrated into circular energy markets.
2. **Regulating** (e.g. biodiversity, natural risk reduction, CO_2 absorption) concretely working on carbon and biodiversity credits, natural risk management through protective forests, and innovative environmental finance instruments such as green bonds and reverse auctions.
3. **Cultural** (e.g. recreation, habitat experience, health) particularly enhancing recreational and tourism services and spiritual and cultural services.

These services have been explored and tested within Living Labs (LLs) across five countries, located in different Alpine territories and representing diverse ecological and socio-economic contexts:

1. **Italy – Valle Tanaro, Piedmont:** The LL in Valle Tanaro explores innovative approaches to valorising chestnut groves, promoting non-timber forest products, developing carbon and biodiversity credits, and fostering experiential activities linked to forest and rural heritage.
2. **France - Haute-Savoie:** Grand Annecy and Thonon LLs focus respectively on two aspects: 1) recreational ecosystem services, enhancing the value of forests through the sale of experiences such as ecotourism, outdoor activities, and educational programmes; 2) enhancing the value of water regulation services through a public-private partnership.
3. **Slovenia – Karavanke Mountains, municipality Tržič:** The Slovenian LL addresses natural risk management with a focus on torrent control, advances solutions for wood biomass supply chains and promotes sustainable tourism and recreational use of forests.
4. **Austria – Province of Styria:** The Styrian LL concentrates on biodiversity and habitat provision and carbon sequestration and storage through innovative financing mechanisms such as reverse auctions.

5. **Germany – Tegernsee Valley, Upper Bavaria:** The German LL explores spiritual and cultural services, such as forest cemeteries with biodegradable urns, while also fostering habitat and biodiversity conservation through collaborative public–private partnerships.

Accordingly, the project is aiming to:

1. Map and analyse the Alpine Space forests delivery capacity of FES;
2. Identify and estimate the economic potential, define business models and FES market frameworks;
3. Test the models/tools developed by the consortium in pilot LLs involving local players;
4. Compare results at transnational level, identifying obstacles and facilitating factors;
5. Analyse the need for innovative policies to foster forest maintenance, FES markets, and new value chains;
6. Elaborate refined transferable tools/models and policy proposals to enable new markets and value chains and ensure the expected FES.

Throughout the project, a continuous participatory process is carried out within the Living Labs. Stakeholders' active involvement in these labs is essential for co-designing and testing models and tools, ensuring that the innovative approaches are rooted in local realities. In parallel, public events and capacity-building workshops have strengthened engagement, supported knowledge transfer, and provided regular updates on project activities. This participatory and long-term approach, tested across the five territories, is paving the way for refined, transferable tools and policy proposals that can unlock new markets and value chains while safeguarding the provision of ecosystem services in the Alpine Space.

Project duration: 42 months

3. Objectives of the Alpine Region Winter School

The overall objective of the Alpine Region Winter School was to **transfer project knowledge, tools and methodologies, and to build awareness and capacity among relevant Alpine stakeholders** with a focus on the assessment, economic valorisation, governance and market development of FES. In particular, the initiative aimed to enable participants not only to understand but also to apply and adapt the approaches developed within the project in their own professional contexts.

More specifically, the Winter School was intended to provide participants:

- a **structured understanding of the concept of FES** and their relevance for sustainable forest management;
- to introduce the **economic logic behind ecosystem service (ES) valuation**;
- to present **practical tools for designing and evaluating business models** and payment schemes;
- to stimulate **reflection on the policy and governance conditions** needed to enable the development of FES markets.

By the end of the Winter School, participants were expected to be able to **recognise the full value of forests for local communities and society**, **identify and assess critical ecosystem services in Alpine forests;** select, adapt and apply **business models** that sustain multiple ecosystem services; evaluate their ecological, economic and social viability, and **discuss practical opportunities and challenges for ecosystem service markets** from both bottom-up and top-down perspectives. They were also equipped to transfer and replicate the project's tools and methodologies within their organisations and territories.

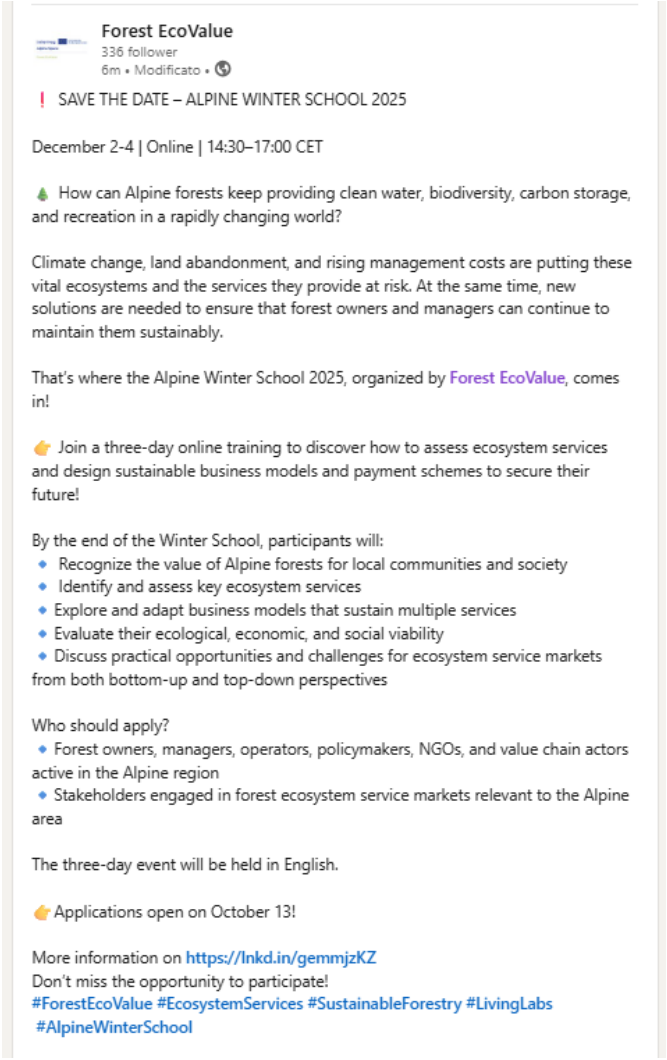
In this sense, the Winter School did not simply provide a theoretical overview but was designed as **an applied and transnational learning environment** where participants could engage with real project experiences and test the concrete use of the tools and approaches developed within the Forest EcoValue project. It also contributed to the broader project ambition of creating favorable conditions for the uptake, implementation and replication of project solutions and FES-related business and governance models beyond the project.

4. Organisational framework

The event was embedded in the **Communication and Dissemination approach** of Forest EcoValue. One of the aims of the project explicitly states that WP3 actions are addressed to different target groups and geographical levels, and that forestry public and private operators, forest owners and value chain players can benefit from a dedicated online school. Communication activities were intended to ensure that target groups are aware of project outputs and able to use them.

The event was promoted through **the official project communication channels**, including the Forest EcoValue LinkedIn page and the project website. In addition, individual partners also contributed to disseminating the event by inviting their contacts to participate through their own pages, websites and networks

A **sponsored LinkedIn campaign** was launched on the Forest EcoValue project to reach selected target groups. The campaign ran from October 6, 2025 to November 24, 2025.



Forest EcoValue
336 follower
6m • Modificato •

❗ SAVE THE DATE – ALPINE WINTER SCHOOL 2025

December 2-4 | Online | 14:30–17:00 CET

🌲 How can Alpine forests keep providing clean water, biodiversity, carbon storage, and recreation in a rapidly changing world?

Climate change, land abandonment, and rising management costs are putting these vital ecosystems and the services they provide at risk. At the same time, new solutions are needed to ensure that forest owners and managers can continue to maintain them sustainably.

That's where the Alpine Winter School 2025, organized by Forest EcoValue, comes in!

👉 Join a three-day online training to discover how to assess ecosystem services and design sustainable business models and payment schemes to secure their future!

By the end of the Winter School, participants will:
- Recognize the value of Alpine forests for local communities and society
- Identify and assess key ecosystem services
- Explore and adapt business models that sustain multiple services
- Evaluate their ecological, economic, and social viability
- Discuss practical opportunities and challenges for ecosystem service markets from both bottom-up and top-down perspectives

Who should apply?
- Forest owners, managers, operators, policymakers, NGOs, and value chain actors active in the Alpine region
- Stakeholders engaged in forest ecosystem service markets relevant to the Alpine area

The three-day event will be held in English.

👉 Applications open on October 13!

More information on https://lnkd.in/gemmjzKZ
Don't miss the opportunity to participate!
#ForestEcoValue #EcosystemServices #SustainableForestry #LivingLabs #AlpineWinterSchool

***Figure 1**: First LinkedIn post of the campaign, published on the project page*

Furthermore, **8 targeted newsletters** were contacted and invited to promote the event; among these, Regione Piemonte newsletter, EFIMED's network and LGCA's ones published news about the event. In addition, the project email address (forestecovalue@gmail.com) was used as contact and visibility tool. A dedicated "Save The Date" was also produced to support outreach and visual promotion of the event.

The Winter School was recorded in order to ensure the further capitalisation of the content presented during the three-day programme. Participants were informed about the recording prior to it and were invited to switch off their cameras if they do not consent to the recording and the use of the recorded materials.

4.1. Participants and selection process

A targeted call for subscriptions was launched before the event and disseminated as explained in the previous section. Applications opened on October 13, 2025 and closed on November 24, 2025.

The Winter School was addressed to a **selected group of participants representing the main target groups relevant for the development, transfer, and future uptake of Forest EcoValue results**. The Winter School was meant for actors directly active in the Alpine region, such as forest owners, managers, forestry operators, local policymakers, NGOs, and value chain actors working in Alpine contexts, as well as for actors active beyond the Alpine region but able to influence it, including national and international policymakers, organisations, and networks engaged in forest ecosystem service markets relevant to the Alpine area.

Selection criteria were defined in order to ensure the consistency of the participant profile with the objectives of the Winter School. Applicants had to belong to one of the following groups:

- forest owners and managers;
- forestry operators and wood and non-wood forest product value chain actors;
- policymakers and public administrators;
- consultants, NGOs, and practitioners engaged in FES and FES markets.

In addition, applicants had to be available to attend the full school or at least the first two days, had to be active in the Alpine region or demonstrate a relevant influence on it, and were required to submit a short motivation statement.

This selection approach helped ensure a balanced and motivated group of participants, able not only to benefit from the training content but also to contribute to the practical and discussion-based dimensions of the Winter School. It also supported the project's intention to combine capacity building with stakeholder engagement and future replicability of the proposed approaches.

Out of **58 applications**, **47 were selected**, ensuring a balanced representation across countries by the Alpine region, stakeholder categories and professional backgrounds.

The application data confirm that the Winter School attracted a **diverse and interdisciplinary audience**. In terms of professional background, the largest group was represented by consultants, NGO

representatives or practitioners engaged in the topic of forest ecosystem services, FES payment schemes and markets (26 applicants), public administration employees (8 applicants) and private forest owners and association representatives (5 applicants). In terms of **geographical representation**, the majority of applicants were professionally active in Italy (32), followed by Slovenia (9), France (4), Austria (3), and Germany (3). The final number of actual participants (i.e., those who attended at least one day) was **30.**

Figure 2 and **Figure 3** demonstrate stakeholder representation among the attendees and applicants. 23 attendees received a participation certificate, following the requirement to attend at least two days of the Winter School to have their participation acknowledged. The template of the certificate is available in the Annex.

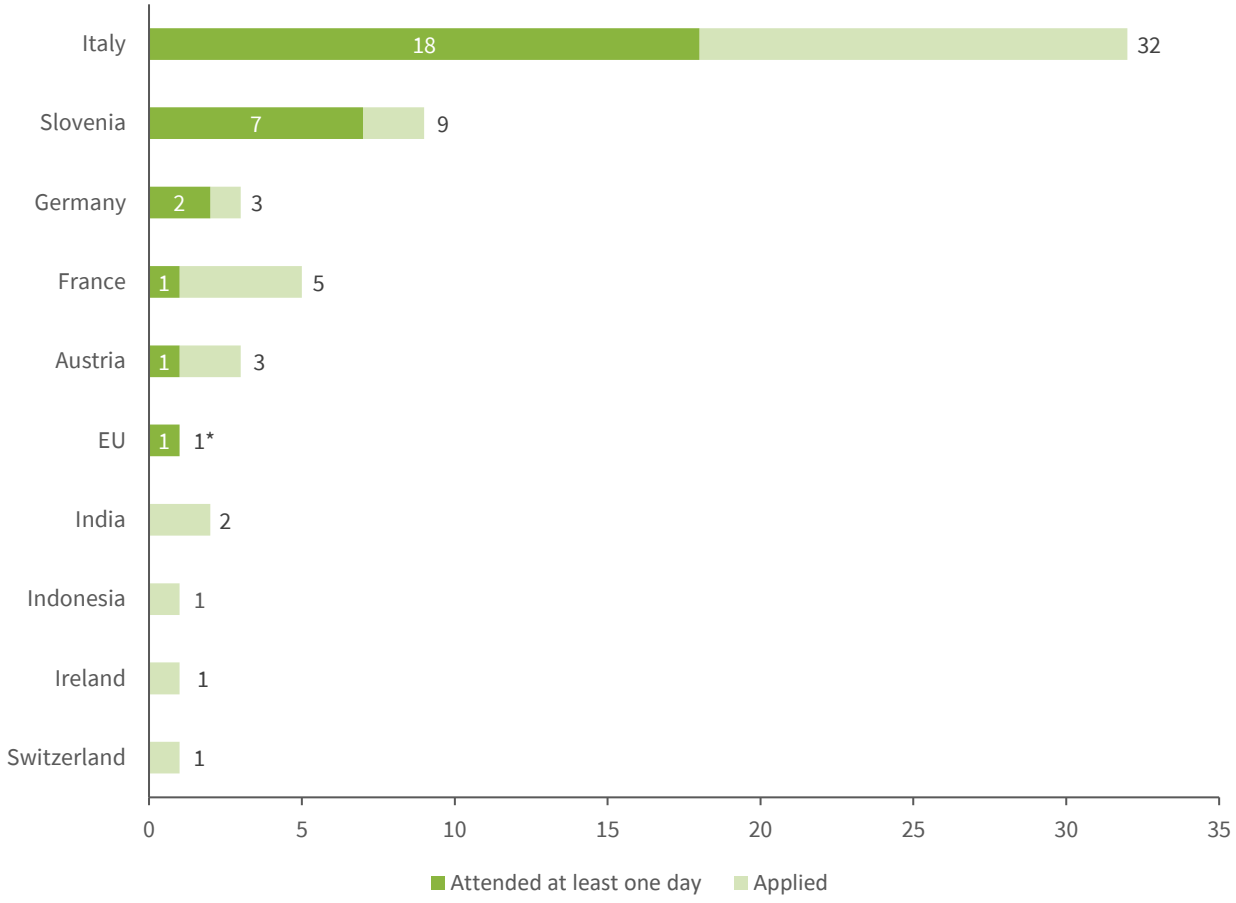


***Figure 2**: Geographical representation of stakeholders among the Alpine Winter School*
*(*There was only one applicant professionally active on the EU level)*

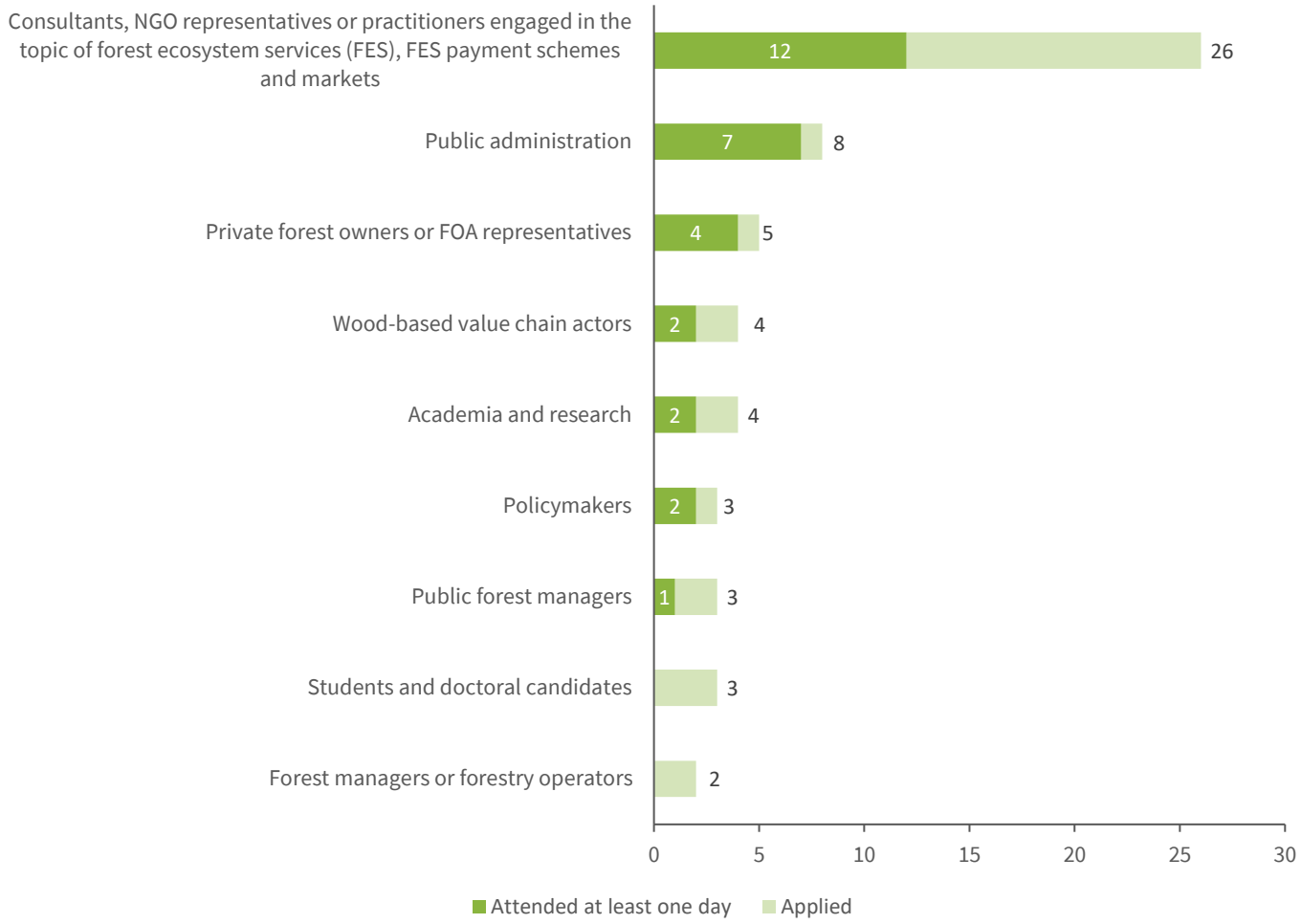


***Figure 3**: Representation of stakeholders among Winter School applicants and attendees by professional occupation*

5. Agenda of the event

The Alpine Region Winter School was structured as **a three-day online programme** combining theoretical input, practical application and policy discussion.

◇ Day 1 – December 2nd, 2025

🌍 ***Theoretical module***

Introduction to forest ecosystem services and practical tools for building viable and sustainable business models to support them

Time (CET)	Session	Description
14:30–15:00	Welcome	Introduction into the Winter School, getting to know each other, and collection of participants' expectations
15:00–15:15	Forest Ecosystem Services (FES): natural science perspective	Brief introduction to the concept of FES from the natural science perspective
15:15-15:25	Social value of FES	Brief introduction to possible ways to estimate the social value of FES
15:25–15:40	Q&A and break time	
15:40-16:40	FES, market design, and business models implementation	A practical introduction to FES markets, empowering participants to design and evaluate innovative, sustainable business models
16:40–17:00	Q&A, concluding remarks and outlook for the next day	Q&A and Day 2 overview

◇ Day 2 – December 3, 2025

🔧 ***Practical module "Forest EcoValue Lab"***

Hands-on application of business model tools to real-world Alpine forest case studies

Time (CET)	Session	Description
14:30–14:50	Task description and team formation	Participants will be provided with all the necessary information on the ecological, economic, and social conditions in the Living Labs (LLs) to create proposals for each LL
14:50–16:00	Work in teams	Participants will develop innovative solutions for the real-world Alpine forest case studies
16:00-16:10	Break time	
16:10–16:50	Solutions pitch round	Every team presents their solutions proposals for the LLs
16:50-17:00	Concluding remarks and outlook for the next day	Day 3 overview

◇ **Day 3 – December 4, 2025**

Policy & engagement module

Interactive discussion on the opportunities and challenges in developing ecosystem service markets from both top-down and bottom-up perspectives

Time (CET)	Session	Description
14:30–14:35	Welcome	Day 3 overview
14:35–15:30	Policy and FES: what is needed and what we can do?	Presentation of the main principles that lay at the foundation of the policy memo developed during the transnational and regional policy dialogues, as well as selected proposals. Open discussion on the how the proposals can be transferred to territories
15:30-15:40	Break time	
15:40–16:45	Policy and FES: what is needed and what we can do?	Continuation of the discussion round
16:45-17:00	Closing session	Open reflection on the winter school experience and collection of feedback on the proposed tools

According to the official agenda disseminated through the target groups, the event took place on December 2-4, 2025, from 14:30 to 17:00 CET, in an online format via Zoom. **Day 1** was designed as a theoretical module focusing on the introduction to FES and practical tools for building viable and sustainable business models. **Day 2** was organised as a practical module and centred on the hands-on application of business model tools to real-world Alpine forest case studies. **Day 3** was dedicated to a policy and engagement module, aimed at discussing opportunities and challenges in the development of ecosystem service markets.

The **speaker line-up** reflected the interdisciplinary nature of the Winter School and brought together **expertise from natural sciences, environmental economics, business models and policy analysis**. The main speakers were Frédéric Berger and Baptiste Desbuquois (INRAE), who addressed the concept and assessment of Forest Ecosystem Services; Victoria Yavorskaya (UNIGRAZ), who focused on the economic value of Forest Ecosystem Services; Luca Cetara and Carlotta Pellegrino (FLA), who covered market design and business model implementation; and Adriana May (FLA), who presented the policy dimension and governance frameworks related to FES.

6. Detailed contents by day

6.1. Day 1 – December 2, 2025

Theoretical module

Introduction to forest ecosystem services and practical tools for building viable and sustainable business models to support them

Speakers: Frédéric Berger (INRAE) and Baptiste Desbuquois (INRAE), Victoria Yavorskaya (UNIGRAZ), Luca Cetara and Carlotta Pellegrino (FLA)

Moderator: Marta Buccaro (LGCA)

The first day of the Winter School introduced the conceptual and methodological foundations of Forest Ecosystem Services. The session began by clarifying that ecosystem services are based on a human-centred perspective, representing the benefits that forest ecosystems provide to society. In this sense, Forest Ecosystem Services are not seen as intrinsic properties of forests alone, but rather as the outcome of the way in which humans perceive and value the functions performed by forest ecosystems.

The content then referred to European-level classification systems, in particular the Common International Classification of Ecosystem Services (CICES), as a harmonised framework for defining and categorising ecosystem services. Within this framework, three main categories of Forest Ecosystem Services were presented: provisioning services, including tangible outputs such as timber, biomass and raw materials; regulating and maintenance services, such as water purification, carbon sequestration and protection against natural hazards; and cultural services, including recreation, tourism and spiritual values, which are generally more difficult to quantify and map.

The first day also addressed the way these categories are operationalised within the Forest EcoValue project across its five pilot countries, highlighting a range of ecosystem services that are examined through both biophysical assessment and economic valuation. A significant part of the session was dedicated to the methodological framework developed and adopted within the Forest EcoValue project for the biophysical assessment of FES. This framework includes several key steps:

- defining the scope and selecting the relevant ecosystem services;
- identifying appropriate indicators;
- collecting and harmonising data;
- carrying out spatial modelling;
- assessing ecosystem service stocks and flows;
- mapping results and validating outputs.

Particular emphasis was placed on the use of large-scale datasets, including European sources such as Copernicus and results from previous Interreg Alpine Space projects, in order to ensure comparability across territories. The importance of a participatory approach was also highlighted, involving forest owners, managers, public authorities, and local users in the identification of relevant ecosystem services, the selection of indicators, and the collection of data. Finally, the session addressed practical challenges related to data availability, scale of analysis, and model selection, presenting the assessment process as

an iterative workflow requiring continuous validation and adjustment. Overall, this first day provided the conceptual basis for the subsequent discussions on economic valuation, business models, and policy frameworks.

6.2. Day 2 – December 3, 2025

Practical module – Forest EcoValue Lab
Hands-on application of business model tools to real-world Alpine forest case studies

Moderator: Victoria Yavorskaya (UNIGRAZ)

Experts: Frédéric Berger (INRAE), Victoria Yavorskaya (UNIGRAZ), Luca Cetara (FLA)

Facilitators: Marta Buccaro (LGCA), Emanuele Melfitani (LGCA), Baptiste Desbuquois (INRAE), Lauriane Hennet (CNPF), Sophia Gschwendtner (UNIGRAZ)

The second day was dedicated to the practical module "*Forest EcoValue Lab*", an interactive and application-oriented session aimed at translating the concepts introduced on Day 1 into concrete proposals. The workshop focused on the hands-on use of business model tools developed and tested within the Forest EcoValue project in relation to real-world Alpine forest case studies, allowing participants to engage directly with the types of ecological, economic, and social challenges addressed by the Forest EcoValue project.

After a debriefing of the first day, participants were introduced to the objectives and methodology of the "*Forest EcoValue Lab*" and split into working teams. Each team was assigned one of the project's Living Labs (LLs), covering pilot areas from Austria, France, Germany, Italy and Slovenia, and received a dedicated handout containing instructions and case-specific background information. The material provided to participants described the ecological, economic and social conditions of each LL and was intended to support the development of tailored solution proposals grounded in the local context.

Building on the knowledge and tools developed within the Forest EcoValue project and presented during the theoretical sessions of Day 1, participants were asked to work collaboratively to identify innovative and feasible approaches for the selected case study. The practical exercise encouraged them to reflect on how Forest Ecosystem Services can be recognised, valorised, and supported through suitable business models and market-oriented solutions, while also taking into account local constraints, stakeholder needs, and implementation conditions. The exercise was facilitated by the Miro platform, which allowed visualization of all materials relevant to the case studies and collaborative work in an online format.

The "*Forest EcoValue Lab*" was designed as a highly interactive learning environment. Participants worked in teams of up to five people, with one Living Lab assigned to each group, and were supported by experts and facilitators throughout the exercise. This format enabled direct exchange among participants with different backgrounds and fostered a problem-solving approach based on transnational comparison, interdisciplinary reasoning, and applied learning.

The session concluded with a solutions pitch round, during which each team presented its proposal for the assigned LL. This final moment was particularly valuable, as it allowed participants to compare different approaches, discuss strengths and limitations, and reflect collectively on the transferability of the proposed solutions across different Alpine contexts. In this way, the second day served as a bridge between

theory and practice, strengthening participants' understanding of how the methodological and conceptual tools developed within Forest EcoValue can be applied to concrete territorial cases.

6.3. Day 3 – December 4, 2025

Policy and engagement module

Interactive discussion on the opportunities and challenges in developing ecosystem service markets from both top-down and bottom-up perspectives

Speakers: Adriana May (FLA), Frédéric Berger (INRAE)

Moderator: Victoria Yavorskaya (UNIGRAZ)

The third day of the Winter School focused on the policy dimension of FES and on the governance conditions needed to enable ecosystem service markets. This part of the Winter School emphasised the need for a coherent governance framework and a supportive political context. It was based on the dialogue process developed by the Forest EcoValue project and involving stakeholders and policymakers at transnational, national, and regional levels across the Alpine region.

The content highlighted that FES generate benefits of public interest, but face significant challenges related to the economic sustainability of forest management, especially in mountain and marginal areas. Forest abandonment, declining forest quality, and the limited capacity of public and private actors to address these challenges on their own were presented as strong arguments in favour of coordinated policy action. The session also underlined that forest management is influenced by multiple sectoral policies and governance levels, which makes the establishment of enabling conditions for ecosystem service markets particularly complex.

The third day also presented the project's policy-related work, including a policy inventory analysing regulatory frameworks and practical experiences, the involvement of actors such as the Alpine Convention, EUSALP, public authorities and LL stakeholders, and the development of a policy memo. This policy memo was described as a flexible *toolbox* of principles and proposals that can be adapted to different legislative and territorial contexts. Core principles discussed included the need for active forest management, the recognition of fair income for forest owners and enterprises, and the importance of public–private cooperation.

Further policy directions addressed during the session included promoting the economic sustainability of forest management through a mix of ecosystem services and value chains, strengthening cooperation among forest owners, identifying strategic ecosystem services, improving compensation mechanisms to support forest restoration and management, and increasing public awareness of the value and costs of ecosystem services. The module concluded by stressing the importance of supporting instruments and planning tools, such as data-sharing platforms, capacity building measures, innovation support, and integrated participatory governance approaches.

7. Learning outcomes and impact

To assess learning outcomes and impact, participants were invited to complete two assessments, one before the start of the Winter School (i.e., **preliminary assessment**) and one after its completion (i.e., **post-assessment**). Both assessments were divided into four thematic sections:

- the ecosystem services concept
- the biophysical assessment
- the economic valuation
- market-based instruments for ecosystem services

Participants were asked to provide definitions of these concepts and methods, rate and/or explain their usefulness in their professional practice, critically reflect on the content of the Winter School and self-assess their learning progress.

In total, **27 participants took the preliminary assessment** (90% of all attendees) and **7 participants took the post-assessment** (23% of all attendees and 30% of those who took part in the preliminary assessment). These data are important to keep in mind while reading the impact assessment below, as when referring to all participants, we consider only those who participated in the preliminary and/or post-assessment. **Tables 1-4** present the results of the assessment, thereby providing a quantitative expression of the Winter School's impact.

Most of the participants of the Alpine Winter School were familiar with and used the **concept of ecosystem services** in their professional practice prior to attending (**Table 1**). All participants found the concept rather useful in their work, with two participants slightly reconsidering the usefulness of the concept after the completion of the Winter School in a negative direction. These two participants also stated that they did not really gain any new insights about the concept during the Winter School. However, considering their professional occupation (i.e., research), they began with a high level of expertise in the topic. All participants, including those who have never worked with the ES concept before, intended to (further) integrate this concept into their professional practice.

***Table 1**: Alpine Winter School impact: ecosystem service concept*

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Consultant 3	No	No		+++	Yes	↑↑↑
Consultant 5	No	No		++	Yes	↑
Consultant 6	Yes	No	+++	+++	Yes	↑↑↑
Consultant 8	Yes	Yes	++++	++++	Yes	↑
Education 1	No	No		+++	Yes	↑↑
Research 3	Yes	Yes	+++	++	Yes	0
Research 6	Yes	Yes	++++	+++	Yes	0
Consultant 1	Yes		++++			
Consultant 2	No					
Consultant 1	Yes		++++			
Consultant 7	Yes		++++			
Education 2	Yes		++			
FOA	Yes		+++			
Private forest owner	Yes		+++			

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Public forest manager or forestry service provider 1	No					
Public forest manager or forestry service provider 2	No					
Public forest manager or forestry service provider 3	No					
Public official 1	Yes		+++			
Public official 2	Yes		++			
Public official 3	Yes		+++			
Research 1	Yes		++++			
Research 2	Yes		++			
Research 4	Yes		+++			
Research 5	Yes		+++			
Research 7	Yes		++++			
Sustainability manager	Yes		+++			
Wood-based value chain actor	Yes		+++			

Table heading. *Used: Used the concept, tool or the results of an assessment/valuation in one's professional practice; Usefulness: How useful one considers the concept, tool or the results of an assessment/valuation in one's professional practice; Future intention: Intent to start or continue using the concept, tool or the results of an assessment/valuation in one's professional practice; Learning progress: Self-assessment of how one's understanding of concept or method has changed as a result of participation in the Winter School; Before/After: before/after Winter School completion.*
Highlights. *Bold text: participated in both assessments; red text: negative change; green text: positive change.*
Scales. *Usefulness: '++++' Extremely useful, '+++' Very useful, '++' Moderately useful, '+' Slightly useful, '0' Not useful at all; Learning progress: '↑↑↑↑' Major change, '↑↑↑' Significant change, '↑↑' Moderate change, '↑' Slight change, '0' No change*

Regarding **biophysical assessment of ecosystem services** (**Table 2**), most of the participants of the Winter School have not performed or used the results of such an assessment in their professional practice, with one participant changing their mind after the Winter School, possibly due to further clarification on the method. Those few who had previous experience with biophysical assessment found it rather useful. The impact of the Winter School on the learning progress was more pronounced in this topic. Only one participant who did not have experience with biophysical assessment before was uncertain about its integration in their professional practice, explaining it by a lack of experience and uncertainty about its practical usefulness. The rest of the participants stated their intention to integrate it into their professional practice.

Table 2*: Alpine Winter School impact: biophysical assessment of ES*

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Consultant 3	No	No		+++	Yes	↑↑↑
Consultant 5	No	No		+++	Not sure	↑
Consultant 6	No	No		+++	Yes	↑↑↑
Consultant 8	Yes	Yes	++++	++++	Yes	↑
Education 1	No	No		+++	Yes	↑↑↑
Research 3	Yes	No	+++	+++	Yes	↑↑
Research 6	No	Yes		+++	Yes	↑↑
Consultant 1	No					
Consultant 2	No					
Consultant 1	No					
Consultant 7	No					
Education 2	Yes		++++			
FOA	No					

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Private forest owner	Not sure					
Public forest manager or forestry service provider 1	No					
Public forest manager or forestry service provider 2	No					
Public forest manager or forestry service provider 3	No					
Public official 1	No					
Public official 2	No					
Public official 3	No					
Research 1	No					
Research 2	No					
Research 4	No					
Research 5	No					
Research 7	No					
Sustainability manager	Yes		+++			
Wood-based value chain actor	Yes		++			

Table heading. *Used: Used the concept, tool or the results of an assessment/valuation in one's professional practice; Usefulness: How useful one considers the concept, tool or the results of an assessment/valuation in one's professional practice; Future intention: Intent to start or continue using the concept, tool or the results of an assessment/valuation in one's professional practice; Learning progress: Self-assessment of how one's understanding of concept or method has changed as a result of participation in the Winter School; Before/After: before/after Winter School completion.*
Highlights. *Bold text: participated in both assessments; red text: negative change; green text: positive change.*
Scales. *Usefulness: '++++' Extremely useful, '+++' Very useful, '++' Moderately useful, '+' Slightly useful, '0' Not useful at all; Learning progress: '↑↑↑↑' Major change, '↑↑↑' Significant change, '↑↑' Moderate change, '↑' Slight change, '0' No change*

A similar trend was observed for the **economic valuation of the ecosystem services** (**Table 3**), as the majority of the participants of the Winter School have not performed or used the results of economic valuation in their professional practice, with two participants changing their statements after the Winter School, possibly due to further clarification on the method. Winter School has convinced participants of the usefulness of the economic approach to ES value in their professional practice, and all participants in the post-assessment stated their intention to integrate this method into their work. Winter School's impact on the learning progress is also more prominent in this topic.

Table 3: *Alpine Winter School impact: economic valuation of ES*

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Consultant 3	No	No		+++	Yes	↑↑↑
Consultant 5	No	No		+++	Yes	↑↑
Consultant 6	Yes	No	+++	+++	Yes	↑↑↑
Consultant 8	No	Yes		+++	Yes	↑↑
Education 1	No	No		+++	Yes	↑↑↑
Research 3	Yes	No	++	+++	Yes	↑
Research 6	Yes	Yes	+++	+++	Yes	↑↑
Consultant 1	No					
Consultant 2	No					
Consultant 1	No					
Consultant 7	Yes		++			
Education 2	Yes		0			
FOA	No					
Private forest owner	Yes		++			

Stakeholder	Used		Usefulness		Future intention	Learning progress
	Before	After	Before	After		
Public forest manager or forestry service provider 1	No					
Public forest manager or forestry service provider 2	No					
Public forest manager or forestry service provider 3	No					
Public official 1	Yes		+++			
Public official 2	No					
Public official 3	No					
Research 1	No					
Research 2	No					
Research 4	No					
Research 5	No					
Research 7	No					
Sustainability manager	Yes		+++			
Wood-based value chain actor	No					

***Table heading**. Used: Used the concept, tool or the results of an assessment/valuation in one's professional practice; Usefulness: How useful one considers the concept, tool or the results of an assessment/valuation in one's professional practice; Future intention: Intent to start or continue using the concept, tool or the results of an assessment/valuation in one's professional practice; Learning progress: Self-assessment of how one's understanding of concept or method has changed as a result of participation in the Winter School; Before/After: before/after Winter School completion.*
***Highlights**. Bold text: participated in both assessments; red text: negative change; green text: positive change.*
***Scales**. Usefulness: '++++' Extremely useful, '+++' Very useful, '++' Moderately useful, '+' Slightly useful, '0' Not useful at all; Learning progress: '↑↑↑↑' Major change, '↑↑↑' Significant change, '↑↑' Moderate change, '↑' Slight change, '0' No change*

As for the **economic instruments for valorisation of ecosystem services** presented at the Winter School (i.e., markets for ecosystem services [MES] and payments for ecosystem services [PES]) and summarised in the **Table 4**, the situation with previous experience is more balanced, as 40% and 52% of assessed participants stated to have used MES and PES in their professional practice, respectively. However, even experienced participants reported a moderate improvement in their knowledge of this topic as a result of their participation in the Winter School. Those who had not had any previous experience with the instruments reported a major or significant impact of the Winter School on their learning progress in this topic.

***Table 4**: Alpine Winter School impact: economic instruments for ES*

Stakeholder	Instrument	Used before	Usefulness	Learning progress
Consultant 3	MES	No	Useful for pro-environmental decision making, private finance mobilization and incentivizing conservation measures	↑↑↑↑
	PES	No	Useful incentive for private forest owners (cover the management/opportunity costs), but transparency is needed	↑↑↑↑
Consultant 5	MES	No	Useful but there is still lack of clarity	↑↑
	PES	No	Useful incentive for private forest owners (cover the management/opportunity costs), but transparency is needed	↑↑
Consultant 6	MES	No	Useful for pro-environmental decision making, private finance mobilization and incentivizing conservation measures	↑↑↑
	PES	No	Useful incentive for private forest owners (cover the management/opportunity costs), but transparency is needed	↑↑↑
Consultant 8	MES	Yes	Useful but come with risks and uncertainties that must be addressed	↑↑
	PES	Yes	Essential for internalizing value of FES	↑↑
Education 1	MES	No	Useful but come with risks and uncertainties that must be addressed	↑↑↑↑
	PES	No	Useful incentive for private forest owners, but must be used with caution	↑↑↑↑

Stakeholder	Instrument	Used before	Usefulness	Learning progress
Research 3	MES	No	Useful for pro-environmental decision making, private finance mobilization and incentivizing conservation measures	↑↑↑
	PES	Yes	Useful incentive for private forest owners (cover the management/opportunity costs), but transparency is needed	↑↑
Research 6	MES	Yes	Useful for pro-environmental decision making, private finance mobilization and incentivizing conservation measures	↑↑
	PES	Yes	Useful	↑↑
Consultant 1	MES	No		
	PES	No		
Consultant 2	MES	No		
	PES	No		
Consultant 1	MES	No		
	PES	No		
Consultant 7	MES	Yes		
	PES	Yes		
Education 2	MES	Yes		
	PES	Yes		
FOA	MES	Yes		
	PES	Yes		
Private forest owner	MES	No		
	PES	No		
Public forest manager or forestry service provider 1	MES	No		
	PES	Yes		
Public forest manager or forestry service provider 2	MES	Yes		
	PES	Yes		
Public forest manager or forestry service provider 3	MES	No		
	PES	Yes		
Public official 1	MES	Not sure		
	PES	Not sure		
Public official 2	MES	Yes		
	PES	Yes		
Public official 3	MES	Not sure		
	PES	No		
Research 1	MES	Yes		
	PES	No		
Research 2	MES	No		
	PES	No		
Research 4	MES	Yes		
	PES	Yes		
Research 5	MES	No		
	PES	No		
Research 7	MES	Yes		
	PES	Yes		
Sustainability manager	MES	Not sure		
	PES	Yes		
Wood-based value chain actor	MES	Yes		
	PES	Yes		

Stakeholder	Instrument	Used before	Usefulness	Learning progress

MES – markets for ecosystem services; PES – payments for ecosystem services.
***Table heading**. Used before: Used the concept, tool or the results of an assessment/valuation in one's professional practice before the completion of the Winter School; Usefulness: How useful one considers the concept, tool or the results of an assessment/valuation in one's professional practice after the completion of the Winter School; Learning progress: Self-assessment of how one's understanding of concept or method has changed as a result of participation in the Winter School*
***Highlights**. Bold text: participated in both assessments; green arrows: measurable change.*
***Scale**. Learning progress: '↑↑↑↑' Major change, '↑↑↑' Significant change, '↑↑' Moderate change, '↑' Slight change, '0' No change*

Overall, the assessment results indicate that the Winter School generated a positive impact on participants' knowledge, perceptions, and intended professional practices. While familiarity with the ecosystem services concept was already high among participants, the Winter School contributed to consolidating existing knowledge and encouraging its continued or expanded use. More substantial learning gains were observed in the areas of biophysical assessment and economic valuation, where prior experience was generally limited; here, participants reported clearer understanding, increased appreciation of usefulness, and strong intentions to integrate these approaches into their work. Similarly, both experienced and less experienced participants in economic instruments reported meaningful knowledge gains, with particularly significant learning effects among those new to the topic. Across all thematic areas, the findings suggest that the Winter School not only reinforced existing expertise but also fostered new competencies and a clear willingness among participants to apply the introduced tools and concepts in their professional practice.

Despite the low rate of participation in the post-assessment, this approach to impact assessment appeared to be a useful tool not only for internal use, but also for participants engagement and preparation for the three intensive days of the Winter School. Our experience suggests that earlier communication about the assessment as integral part of the Winter School could increase the participation rate, in addition to basic interface and usability improvements (e.g., using other tool for survey, analogue option, etc.).

8. Feedback and reflection for future initiatives

Following the Alpine Region Winter School, participants were invited to complete a **follow-up questionnaire** aimed at gathering feedback on the event.

The questionnaire covered several aspects, including:

- overall satisfaction with the Winter School;
- the perceived relevance and usefulness of the initiative;
- the main takeaways from the three-day programme;
- the relevance of the different sessions;
- satisfaction with session contents and comments on them;
- satisfaction with the organisation and communication;
- overall feedback on the Winter School.

The responses collected show an **overall positive appreciation of the Winter School** in terms of relevance of the sessions; in the open questions on key takeaways, participants referred, among other aspects, to the interest of the first and last day, the opportunity to integrate knowledge across different perspectives, the value of learning about ecosystem services and practices, the development of a business model, the interdisciplinary dimension of the initiative, and the conceptual approach addressed to the target audience.

The feedback on the practical module was also positive. Among the comments provided, participants mentioned being impressed by the wide set of information provided, appreciated the hands-on work with real data, and described the exercise as interesting. One respondent also noted that the practical session was very short but an interesting method, suggesting appreciation for the format while implicitly pointing to time constraints. Hiring professional facilitators and/or providing more intensive facilitator training on the content of the module could further improve the experience and learning impact. Skilful facilitation is particularly critical for online learning experiences, which are more challenging for focus and engagement.

The organisational aspects were assessed positively as well. In the open feedback fields, respondents described the event as a very well-prepared dissemination programme, highlighted the good construction of the three days, and expressed appreciation for the organisation. Multiple participants suggested that they would benefit from an extended version of the Winter School (e.g., integrate longer breaks between session days or extend the Winter School duration to two to three weeks), as it would allow them to dive deeper into the topics. However, one must acknowledge a possible trade-off between the content immersion quality and the dissemination potential (number of participants). As in the case of this Winter School, many participants were rather new to the topic (see **Section 7**), the selected format was deemed to be the best to reach the objective of transferring project knowledge and building awareness and capacity among relevant Alpine stakeholders with a focus on the assessment, economic valorisation, governance and market development of FES.

9. Conclusions

The Alpine Region Winter School represented a significant capacity-building and knowledge transfer activity within the Forest EcoValue project. Organised as a three-day online event, it brought together selected public and private actors from across the Alpine region and provided a structured learning pathway combining conceptual foundations, practical application, and policy reflection.

The Winter School gathered 30 participants across the Alpin area and addressed the key themes of the project, namely the understanding and assessment of FES, their economic valorisation, the development of business models and market frameworks, and the policy and governance conditions needed to support their implementation. As such, it contributed to strengthening participants' knowledge and awareness, while also supporting the broader objective of fostering favourable conditions for the uptake and replication of Forest EcoValue approaches beyond the project partnership.

The positive feedback collected after the event further confirms the relevance and usefulness of the initiative. Participants appreciated both the thematic content and the practical dimension of the programme, as well as the overall organisation of the three-day event.

Its impact was further extended through the publication of the **Online Training Modules** (**O.3.2**), which were developed from the Winter School recordings and published on the project's official YouTube channel. Its contents were transformed into four thematic training modules, covering the concept of FES, their economic value, market design and business model implementation, and policy frameworks. These modules were edited and published on March 16, 2026, ensuring wider dissemination, long-term accessibility, and continuity of the knowledge generated during the event.

Annex

Template of the certificate of attendance

Gefördert durch:

Bundesministerium
für Umwelt, Naturschutz, nukleare Sicherheit
und Verbraucherschutz

aufgrund eines Beschlusses
des Deutschen Bundestages