InnoForESt

Smart information, governance and business innovations for sustainable supply and payment mechanisms for forest ecosystem services

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D6.5 Sustainability Plan

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Executive summary

The Sustainability Plan outlines the dissemination of project results and materials that have been produced and conducted throughout the project lifetime, after the project has been completed. First, the plan summarises the overarching context relating to the European issue of lack of sustainable provisioning and financing of Forest Ecosystem Services (FES), where conventional framing has favoured lumber production instead of a more holistic approach to other FES, and how the InnoForESt project plans on tackling this issue. Following this, the areas of impact are presented through the six Innovation Regions (IRs) across the continent (Austria, Finland, Germany, Italy, Slovakia/Czech Republic, and Sweden). The applications of the results are then highlighted, with a specific focus on policy implementation through both local-level and national & EU-level policy makers as well as for scientists/researcher recommendations. These two stakeholder groups were specifically chosen for in-depth analysis as they were deemed most suitable for maximum sustainable impact to help forest owners and managers. Furthermore, the created outputs of the project are presented, focusing on the policy brief recommendations, academic articles, and offered training. The accessibility of the project outputs is highlighted, presenting both the general dissemination form ELO (in charge of project dissemination) as well as individual partner dissemination plans. Considering the context of InnoForESt in regard to fostering a focus shift to a wider range of FES through supporting innovation processes by the means of producers, analysis tools, and experience collected across the various IRs, no products per-se are being put on the market. The long-term business aspect of project results can be briefly found in the appendices. Output users and contactability as well as future milestones are also briefly presented. This Sustainability Plan is vital as it presents and ensures the spread of project results after the project is completed, as the recommended undertakings from the project span longer than the project itself, as well as can serve as a reminder and inspiration for further work on sustainable forest ecosystem services provisioning and financing.

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Abbreviations

ANE:	Academy of Sustainable Development
CETIP:	Centre for Transdisciplinary Studies
CINA:	Constructive Innovation Assessment
CSR:	Corporate Social Responsibility
ELO:	European Landowners' Organization
FACE:	European Federation for Hunting and Conservation
FES:	Forest Ecosystem Services
FFC:	Finnish Forest Centre – Suomen Metsäkeskus
FVA:	State Forest Experiment and Research Station Baden-Württemberg
HNEE:	Eberswalde University for Sustainable Development
IREAS:	Institute for Structural Policy
NGO:	Non-governmental organisation
PAT:	Forest and Wildlife Service of the Autonomous Province of Trento
SME:	Small and medium-sized enterprises
STUDIA:	Studygroup for International Analysis
SYKE:	Finnish Environment Institute
UIBK:	University of Innsbruck
ULUND:	Lund University Centre for Sustainability Studies (LUCSUS)
UNITN:	University of Trento
UT:	University of Twente
UNIVERSEUM:	Science Centre Gothenburg
ZALF:	Leibniz-Centre of Agricultural Landscape Research, Institute of Socio-Economics

Introduction

European forests have historically provided a wide range of ecosystem services to nearby human populations, including crucial goods such as timber and food as well as other more intrinsic, regulating, and cultural services.

However, ecosystem services that fall into the conventional monetary valuation framework have been at the forefront of policy making processes, innovation, and widespread growth, whereas non-marketable ecosystem services, such as cultural and regulating forest ecosystem services (FES), have taken the backseat in the forest policy and business spheres. Financing such services becomes more and more challenging for forest owners and managers, due the difficulty of generating monetary profit for these activities. On top of this, the sustainable provision of FES as a whole has been challenging, as balancing environmental sustainability with financial security has usually leaned towards the latter at the expense of the former.

Indeed, there is an important lack of management mechanisms to secure the future sustainable provisioning and financial support of forest ecosystem services, specifically cultural and regulating ones, which fall beyond the conventional monetary valuation. The InnoForESt project was created in an attempt to tackle this issue.

Funded by the Horizon 2020-Innovation Action, the InnoForESt project investigates FES delivery mechanisms and schemes to foster innovative policy, management and business development. Building on innovative policy tools, business models, alliance-building, and forest stakeholder participation (forest policymakers, administrators, and businesses), the project supports the governance of viable innovations and the creation of a multi-actor network in favour of sustainable FES provisioning in Europe.

The project is composed of a diverse consortium relating to forestry, from universities (5 European), 7 environmental and forestry agencies and 7 NGOS, as well as a wide range of forest owners, forest networks and forest SMEs.

Through six representative case studies, spanning Austria, Finland, Germany, Italy, Slovakia/Czechia, and Sweden (highlighting Europe's biogeographical diversity), InnoForESt focuses on policy and business initiatives that have been successful pioneer innovations. Doing so requires a more in-depth understanding of the current functioning and development of present innovations.

To achieve its goal, the project upscales and empowers existing innovations alongside new ones within the six regions, leading to more sustainable, efficient, and better coordinated governance and financial mechanisms of FES in Europe. The four main impacts of the project are:

1. A synthesis of exemplary innovative and economically viable forest ecosystem service provisions in Europe
2. Identification of hindering and enhancing factors of forest governance innovations
3. Identification of promising governance approaches and context conditions to support upscaling and mainstreaming of successful examples
4. Integrated knowledge-based recommendations for the extension of innovative and economically viable forest ecosystem service provision in real world contexts

Areas of Impact

The areas of impact of the InnoForESt project are the six Innovation Regions across Europe studied during the project (Table 1), with the hope that the impacts and lessons learned will inspire and lead to future policy work across higher levels (regional, national, and EU) over time, to transition to sustainable and favourable FES provisioning and financing.

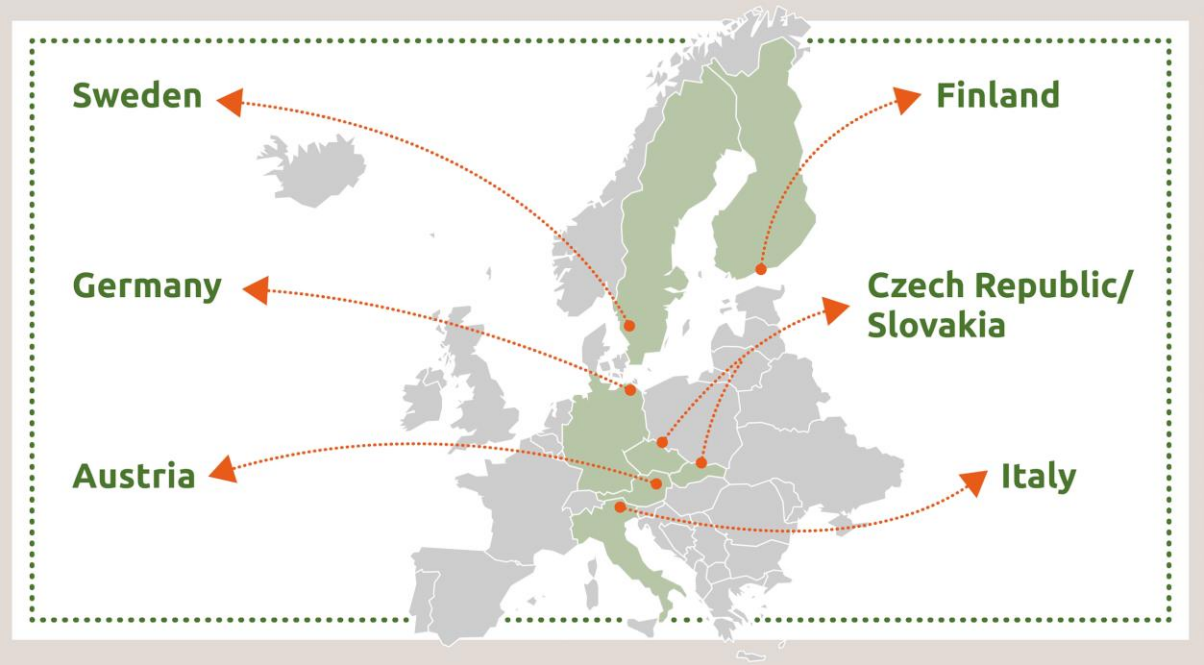

Figure 1. Overview of the Innovation Regions of the InnoForESt project.

Table 1. Aims and lessons learned from the areas of impacts (i.e., Innovation Regions) of the InnoForESt project.

Areas of Impact	Aim	Lessons learned	Country of Impact
Value Chains for Forests & Woods	Strengthening the region's socio-economic and ecological resilience by empowering stakeholder networks around creating innovative forest-based services and/or wood-based products. Specifically, biodiversity, timber, and tourism and recreation FES are targeted through the means of network approaches and new actor alliances.	The importance of fostering an increased promotion of sustainability within regional wood products as well as increasing consumer awareness towards the sustainability aspect of using regional wood resources.	Austria
Habitat Bank	Biodiversity compensation: when actors who degrade biodiversity compensate their losses through purchasing offsets from landowners who restore and/or protect sites. Here, the FES being addressed are timber, biodiversity, and carbon sequestration through the means of payment schemes and compensation.	Understanding the current bottleneck in the demand for innovation, caused by the voluntary nature of the payment scheme in combination with the little practical experience of biodiversity offsetting in the region. Indeed, without an existing regulation, it is a significant challenge to encourage the implementation of biodiversity compensation amongst other actors.	Finland
Waldaktie	The potential of a new compensation scheme involving visiting tourists compensating for their carbon emissions by paying for "forest shares", which then get redirected for tree maintenance in the "climate forest". The objective of this strategy is to address the FES of climate protection, biodiversity, water, carbon sequestration, and timber.	The importance of adaptability of Waldaktie to nurture project development alongside changing times. This must also be applied to the stakeholders, who must comprehend the volatility of the product and the importance of its adaptability.	Germany

Table 1. Aims and lessons learned from the areas of impacts (i.e., Innovation Regions) of the InnoForESt project. *Continued*

Areas of Impact	Aim	Lessons learned	Country of Impact
Forest Pasture System Management	Examines innovative mechanisms to sustainably manage ecosystem service provision in mountain forests and pastures, which include water regulation, natural hazards protection, tourism, and recreation. These mechanisms are reinforced by network approaches and new actor alliances.	The crucial importance of building strong and resilient links between private business innovations and public entities in order to provide structure and ensure longevity of the innovation.	Italy
Collective Governance of Ecosystem Services	Fostering innovative payment scheme development within community-owned forests with the goal of simulating climate-related FES whilst maintaining the provision of recreation and education, which are important cultural FES in the region.	The emphasis required on an important factor for collaborative behaviour for fostering innovation: the robustness of the connections between self-organised communities and local ecological values. If maintained and strengthened, this robustness has the potential to lead to a long-term sustainable transformation.	Slovakia/Czech Republic
Love the Forest	Focuses on increasing the knowledge of local high school students on forest and FES in times of climate change by using a multi-stakeholder initiative. In turn, the students work on concrete climate-related cases of the innovation region as part of their student theses. These efforts tackle the FES of educational service, biodiversity, and tourism and recreation using a hierarchical governance innovation process.	It is crucial for efficient and scientific innovation development, close collaboration between project owners, academia and end-owners must be fostered, nurtured, and strengthened over time, ensuring positive impacts.	Sweden

Applications of Results

Three years of InnoForESt have sparked important developments in the IRs towards developing or improving innovative governance mechanisms that are expected to secure FES provision and financing. So far, all innovation developments are ongoing processes that may result in a self-sustaining, economically viable business and/or cooperation) model of FES provision and financing. The recommendations outlined below are therefore based on InnoForESt's experiences initiating and supporting processes that show potential to reach the objective of self-sustaining business models for FES provision and financing.

Five overarching themes have emerged despite the variability in IRs' local contexts, different FES-related objectives, and asynchronous developments during InnoForESt. They relate to issues that demand consideration during the entire process of working towards an innovative governance mechanism for FES provision and financing. As such, they serve as the structuring backdrop to the target-group specific recommendations and options for action that follow. The project results suggest that all six targeted actor groups can contribute to securing FES provision and financing by catering to one of more of these overarching themes, or by addressing them through different means. Recommendations for boosting innovations to sustainably provide FES include: (1) Bringing diverse stakeholders together, (2) Structured, facilitated stakeholder network building, (3) Facilitated innovation development, (4) Maintaining direct link to FES provision and (5) Payment schemes for FES provision. (Maier, et. al, 2020, p. 13)

Every target group has a role to play in boosting innovations to sustainably provide FES, and the following paragraphs focus extensively on policy implementation from local-level and national- and EU-level policy makers, as well as scientists and researchers' recommendations to help forest owners and managers. Nevertheless, the role of other stakeholders must also be mentioned:

- NGOs are able to provide different types of support and services, especially in comparison to entrepreneurs or administrations, depending on the organisation's profile and mission.
- Entrepreneurs from in- and outside the forest sector are key figures of interest when looking for innovative private market mechanisms to secure FES provision and financing.

Policy Implementation

This section focuses on fostering the implementation of policy recommendations by relevant government institutions. These have been enabled by the policy briefs created as part of project deliverables, and curated for specific target groups, yet this section focuses solely on the policy briefs provided for the local-level policymakers and the EU & national policymakers. The policy briefs and recommendations below are centred around both types of policymakers' ability to utilise their position to support, empower, and maintain the sustainable provisioning and financing of FES. In general, it must also be said that policy implementation took place interactively and on a regular basis where regional stakeholders were involved.

Local-Level Policymakers

Starting with the former, local-level policymakers are targeted due to their responsibility and overarching management roles within local forests. Indeed, it is often the case that forests, and forested land are owned and managed by the communities and/or the municipalities in which they find themselves in. This can be particularly advantageous to foster the creation of effective innovative governance mechanisms related to FES provisioning and financing.

Thus, it is important to build and strengthen the connections between the objectives of the policymakers and FES. This can be done through the overarching objectives of securing FES provision funding for tourists and local population, attracting innovative businesses (thus providing jobs) that also aid in securing future FES provisioning, and spending public funds efficiently and effectively on FES provision.

However, this is not without its challenges which must be dealt with in an inclusive and cooperative manner. These include but are not limited to balancing multiple community interests, as well as expecting FES provision on behalf of forest owners and managers without the ability to provide direct financing compensation.

In the case of local-level policymakers, the principal recommendations provided by the results of the InnoForESt project surround the development of a clear vision of what is necessary to achieve in terms of innovative approaches to FES provision and financing. Whilst there are multiple themes to raise awareness towards the importance of FES provision, such as real experience, examples, and good practices, for the case of local-level policy makers, the vision of innovating mechanisms should follow the five themes of (detailed recommendations found in Table 3 and Table 4):

- Bringing diverse stakeholders together,
- Structured, facilitated network building
- Facilitated network development
- Maintaining direct link to FES provision and financing
- Payment schemes for FES provision

National and EU-Level Policymakers

Moving on to the latter of the two spheres of policymakers, national and EU-level policymakers are targeted due to the importance of national and EU legislation regarding the support of favourable FES supportive policies and governmental actions.

Indeed, it is important to build and strengthen the connections between the objectives of the policymakers and FES. This can be done through shaping the policy objectives of the policymakers, which should be focused on, in order to foster an FES-favourable policy environment:

- Securing FES provisioning for society in European eco-zones with the long-term goal of not requiring public funding,
- Attracting innovative business ventures (promoting local jobs and economic activity in the long-term) with the objective of securing future FES provisioning, and,
- Developing a policy environment with policy conditions which facilitate the implementation of market-based governance mechanisms heavily grounded in securing FES provisioning.

However, this is not without its challenges which must be dealt with in an inclusive and cooperative manner. As on any political scale, balancing multiple and diverging interests is a challenge as well as spending public funds in an efficient and effective manner. On top of this, the slow development and implementation of top-down policies could prove to be a significant obstacle in light of the urgency of taking adequate sustainable actions. More closely related to FES, challenges include demanding FES provisioning for forest owners and managers (and related organisations) without offering direct compensation, as well as limited existing governmental capacities of providing financial incentives to forest owners to provide FES due to a lack of prioritisation of provisioning FES. As a whole, the EU forestry and forest-based sectors can heavily contribute, and have a significant potential of reaching local, national, European, and potentially global climate, biodiversity, economic, and social objectives, due to the transdisciplinary and widespread impact of their activities.

Without effective and active forest management, carbon sinks will saturate leading to long-lasting negative impacts. Hence, new models of forest management are required to overcome the current conflict of biodiversity and economy, hindering the creation of sustainable forestry policies. Hence, the necessity of the policy briefs provided by the InnoForESt project.

The results from the project indicate that a well-targeted combination of legislation and public funding has the potential to foster the creation of public private partnerships as well as private investments required to sustainably supply FES in the long term. Top-down support to encourage and empower bottom-up efforts throughout the EU- and national-level action is needed due the variety of solutions required for the multitude of FES provisioning cases in the EU. This is due to the heterogeneity of FES, forest management practices, and institutional settings surrounding the governance of FES: a one-size-fits-all solution is inadequate for European FES provisioning.

Thus, policymakers are capable of steering public forest management in the direction of FES sensitive best practices through participation in adequate certification schemes, to counter and compensate carbon-intensive activities. Innovation processes are long-term processes with their development requiring extensive periods of time, thus requiring a positive, nurturing, and adaptive political and financial environment due to the diversity of FES provisioning requirements across time and spatial scales.

The InnoForESt policy briefs and overall project results aim to aid policymakers in steering in the direction of fostering the creation of successful FES provisioning and financing policies over long periods of time. This is valid for policymakers across all levels of government, and thus have been regrouped in Tables 3 and 4 below. After project completion, these guidelines serve as detailed pathways for policymakers to follow to foster positive and long-lasting change. These tables are organised based on the 5 common themes that policymakers across scales must base their actions on, including the three different types of available payment schemes (hence why it is a separate table, to emphasise its importance).

Scientists/Researchers Recommendations

InnoForESt highlights the importance of transdisciplinary work to achieve the objectives of the project. To this, scientific researchers must play their role in providing sound science to foster a sustainable FES provisioning environment and must be interested in the governance of FES. One

of the policy briefs focused precisely on this, providing recommendations for scientific action as well as methodologies for how to implement them.
These recommendations are divided into three different groups: (i) recommendations for future research, (ii) transdisciplinary work, and (iii) for working alongside practitioners.

The InnoForESt project recommends that future scientists centre their future work around creating a set of open questions research to answer/frame the how to secure FES financing and provisioning. However, this is not without its challenges, which must be addressed in a transdisciplinary fashion to maximise inclusiveness and widespread reach of results. These challenges include:

- Defining the right research questions;
- Providing relevant research for practitioners;
- Communicating scientific results in an appropriate manner and suitable channel to targeted policymakers, practitioners, and other academics;
- Challenges of working in inter- and trans-disciplinary sciences;

These challenges must be taken into account when undertaking future tasks related to FES as a whole. In this particular case, the InnoForESt project highlights two specific findings that should be considered in future research endeavours. Recommended research pathways are found in Table 2. First, scientists must be aware of the important difference between FES-based activities and activities with the goal of securing FES, with the former centred around FES providing goods and services whilst the latter focuses on activities that foster FES provisioning. FES are very much interlinked with a multitude of economic, societal, and policy directives, which themselves offer different opportunities and challenges. Understanding this dynamic complexity involves continuous reflection of the surrounding governance innovations impact on forest management, and the potential it has to be redirected in a sustainable direction. In turn, governance mechanisms influence FES provision and forest-based incomes, which are distinct and often at odds, as shown throughout the Innovation Regions. These complexities should serve as guidance for research, especially in case study and method selection processes. Second, the project highlights the importance of public involvement for securing the provision of FES, even though there is a strong potential for private sector involvement. Indeed, this is particularly the case for regulating and cultural FES, which many take the form of common pool resources and/or have public goods characteristics, indicating the importance of collective action to maintain them. This can take the form of legislation (compensation payments for lost FES due to activities), as well as targeted support for local bottom-up initiatives that foster the development of local, public-private solutions.

Table 2. Recommended future research pathways

Topic	Recommended Research
Objectives	Maintain clear identification of FES-related objectives alongside continuous consideration of the potential impacts of the research on forest management, FES provision and forest-based income
Governance	Focus efforts on identifying effective and efficient types of governance (especially public-private partnerships) for securing FES provision. Well-functioning systems might already be in place that could be transferred to other EU Member States. Additional research on existing national and regional legislation, FES provisioning security and transferability is needed
Ecosystem benefits	Adequately evaluate and compare ecosystem benefits to foster an adequate exchange of FES lost with FES restoration in other locations
Social perspective	Focus on the social perspective of the various important FES, understanding the influence of cultural values, regional identity, background and traditional knowledge of FES
Tools	Develop user-friendly tools to assess and monitor the societal demand of FES and the supply as well as the quality and quantity of FES for practitioners to use Educational programmes at different levels from Forestry University to forest operators and administration capacity building to mainstream the knowledge of sustainable forest management (SFM) for FES provision FES knowledge brokers, build this figure as a bridge that communicates the best available knowledge on FES and its best application at management, administration and policy level
Compensation payments	Invest in time to understand the motivations behind voluntary compensation payments
Inter-Transdisciplinary research	Involve both social and natural scientists in the research as a collaborative process is required to tackle the complex challenges of securing FES provision, involving communication amongst diverse stakeholders, which is where social science perspectives such as psychology, sociology, and communication sciences can play pivotal and decisive roles

More information about these recommendations can be found in Deliverable 6.3 and our targeted policy briefs, available soon on the project website. Above all, it is important to have a realistic understanding of innovation. As described in detail in D4.2 (Aukes et al. 2020b), D4.3 (Loft et al. 2020), D5.3 (Aukes et al. 2020c) and D5.5 (Aukes et al. 2020a), innovation is a social process within given cultural, scientific, technological, political etc. configurations, and it is often experienced or observed as open-ended, while also the context remains more or less fluid.

Innovation is thus not a straight-forward, linear process that can be programmed or would lead to precisely defined results.

Key Performance Indicators (KPIs)

Following these recommendations in practice takes time. Recommendations while well-formed must also be well implemented. In order to evaluate the success of the dissemination and uptake of these recommendations, several KPIs will be developed to monitor and evaluate reach and uptake. Each target group will have its own set of criteria and will consider the following attributes: (i) timeliness of the recommendations, (ii) ability to comprehend the recommendations, (iii) ease of putting the recommendation into action and (iv) utility of the recommendations.

Generated Outputs

To go about facilitating a shift towards fostering sustainable FES provisioning and financing, the InnoForESt project has developed a range of products that offer solutions to steer interested parties in a sustainable direction (Table 3).

Table 3. General outputs from the InnoForESt project

Product	Detail	End Users	Source
A Navigator to Forest Ecosystem Service Governance Innovation	The InnoForESt approach in a nutshell. It is a guide that outlines what the project has developed in each Innovation Region and how it can be applied to developing projects	6 target groups i.e., Forest owners & managers, non-profit and NGOs, local-level policy-makers, national and EU-level policy-makers, non-sectoral entrepreneurs, scientists and future researchers	Deliverable 5.5: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables
Policy Briefs	Summarise InnoForESt's policy recommendations	6 target groups	InnoForESt Enabling Innovation Repository
Methodological Manual	Summary of methods helpful for further developing and assessing FES innovations; Navigator and Manual for its Use (Deliverables 5.1 (Aukes et al. 2019) / 5.5 (Aukes et al. 2020a), Methods Fact Sheets (D5.1: Governance Situation Analysis, Stakeholder Analysis, Constructive Innovation Assessment, etc. (Aukes et al. 2019)	6 target groups	Deliverable 5.1: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables Deliverable 5.5: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables
Maps	EU-wide integrated biophysical and institutional maps illustrating supply and demand of FES as well as the institutional context of their provision	6 target groups	Deliverable 2.1: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables
Handbook	Contains training material for innovative FES practices	6 target groups	

Table 3. General outputs from the InnoForESt project. *Continued*

Product	Detail	End Users	Source
Policy and business recommendations report	Detailed recommendations for specific 6 target groups	6 target groups	Deliverable 6.3: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables
CINA Documentation	Details of the Constructive Innovation Assessment (CINA) workshop method and innovation process reconstruction (Deliverables 4.1 (Sattler, 2019), 4.3 (Loft et al. 2020), 5.1 (Aukes et al. 2019), 5.3 (Aukes e al., 2020c) 5.5 (Aukes e al., 2020a)	Forest owners & managers, NGOs & associations, local-level policy-makers, scientists & future researchers	Deliverable 4.1 Deliverable 4.3 Deliverable 5.1 Deliverable 5.3 Deliverable 5.5 All available here: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables
Scenario Development Documentation	Details the scenario development method used during the CINA workshops (Deliverables 5.1 (Aukes e al., 2019) and 5.5 (Aukes et al. 2020a))	Forest owners & managers, NGOs & associations, local-level policy-makers	Deliverable 5.1: https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables Deliverable 5.5. https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables

Policy Brief Recommendations

As highlighted above, some the project outputs include policy pathways that both local-level policymakers and national & EU policymakers can take to foster a supportive and empowering policy environment towards the sustainable provisioning and financing of FES. These are based according to the themes/values highlighted in the project, that were found across the six different Innovation Regions:

- Payment schemes for FES provisioning (Table 4)
- Bringing diverse stakeholders together (Table 5)
- Structured, facilitated network building (Table 5)
- Facilitated innovation development (Table 5)
- Maintaining direct link to FES provisioning and financing (Table 5)

Table 4. Policy pathways for policymakers on local-, national-, and EU-levels to foster positive FES provisioning based on different payment schemes available for FES provisioning.

Payment schemes for FES provision	Local-level policymakers	National & EU policymakers
Direct compensation schemes	Foster processes behind certificate purchasing for carbon offsetting of municipal activities Support and empower the marketing strategies behind both local and touristic purchasing of such certificates	Pass legislation to enforce the use of compensation payments for offsetting carbon footprints and biodiversity loss Identify, learn, and potentially transpose effective compensation mechanisms from national or federal levels to nation-wide or EU levels
Indirect from timber-based value chains	Foster local wood value chain development as part of local FES provisioning and financing support Using public procurement policies, empower specific forest-wood value chains with expected positive regional FES provision impacts	Foster the synergies between rural development programme goals with the specific timber-based value chains that provide regulating and cultural FES Identify potentials for incorporating FES provisioning into current rural economic development programmes
Income from non-sectoral economic activities based on FES	Encourage increase in societal demand for these types of offers, such as recreational and educational activities Hire staff (or outsource to adequate professionals) to foster and lead such FES-based products and services activities as well as aid in maintaining its supporting infrastructure (marketing processes, compensation certificate development etc.)	Acknowledge their limited contribution to maintaining future FES provisioning due to insufficient generated revenue necessary to trigger a shift in management focus towards FES provisioning Foster substantial public financial compensation development to forest owners for the diverse FES their forests provide by making diverse forest management stra attractive to new private investments Develop, strengthen, and maintain conscious consideration for multiple FES provisioning across national and EU policies

Table 5. Policy pathways that policymakers on local-, national-, and EU-levels can take to foster positive FES provisioning.

Theme	Local-level policymakers	National & EU policymakers
Bringing diverse stakeholders together	Engage and support local-level initiatives in bringing stakeholders together empowering current stakeholder networks (also allows them to advance their own agendas) Facilitate networking processes (offer meeting space, hire professional moderation service etc.) Offer new sources of funding, attend meetings in person	Target public financial support of key local-level actors for development facilitation Provide targeted funding to foster stakeholder network building by using proven methods that guarantee promising results Embed funding with clear FES-related objectives and considerations for governance impacts on FES and forest management
Structured, facilitated network building	Participate in ongoing stakeholder development (fosters better understanding of systematic support) Take a leading role in identification and contact process of stakeholders for organising meetings/moderating meetings Encourage use of systematic stakeholder analysis Utilise pre-existing networks to invite external speakers on the presented issue and support or initiate funding applications (network building opportunity)	Encourage and strengthen diverse local innovative FES financing and provisioning network development via targeted funding of local initiatives network building activities by using proven methods that guarantee promising results Embed funding with clear FES-related objectives and considerations for governance impacts on FES and forest management
Facilitated innovation development	Spearhead facilitation of innovation development processes Develop scenarios with stakeholders (crucial) Encourage use of systematic innovation development concepts Foster active participation amongst stakeholders Support/empower local funding applications	Support science-based implementation orientated innovation processes
Maintaining direct link to FES provisioning and financing	Maintain clear connection between innovative governance and FES provision and financing requirements Maintain framing of governance mechanisms based on impact on forest management and FES provisioning by engaging forest stakeholder participation and involving municipal forest experts	Ongoing reflexion on potential impacts of legislation/funding on FES provisioning and financing Maintain systematic assessments of supply and demand of FES Follow a case-by-case analysis for flexible implementation processes assessment. Increase support of adaptive capacity and restoration mechanisms of biodiversity and ecosystem functioning across all forests

As shown previously, scientific research endeavours involve a multitude of challenges, stemming from the transdisciplinary nature of such activities to secure FES provision. To make the most of such transdisciplinary opportunities, these challenges must be addressed proactively and with foresight. This is to maximise the impact of the research performed, which alongside funding requirements, by reflecting these considerations and demand, elaborate then implement convincing proposals for how these recommendations mentioned can be brought to life (Table 6).

Table 6. Transdisciplinary research recommendations for scientists undertaking work on FES governance mechanisms to foster sustainable FES provisioning.

Recommendation	Detail
Placing an emphasis on regular, frequent, and eye-level coordination between scientists and practitioners every step of the research	**Consider** potential intercultural discrepancies in the perception of hierarchies within the consortium. **Consider** the potentially unequal distribution of budget available for project activities between science and (individual) practitioners.
Being efficient and respectful of practitioners' time	**Design:** incorporate the needs and interests of practitioners into the research design from the very start, to ensure the research project can address local needs, in addition to scientific interests. **Coordination:** coordinate well among the research team to ensure practical suggestions, methodological and conceptual guidance, and requests towards practitioners are well-aligned to avoid practitioners feeling pulled into different directions, asked to complete similar tasks multiple times, or even receive contradicting advice or instructions. **Implementation:** eye-level collaboration between scientists and practitioners to find a balance between scientific interests and associated choice of methods, and practitioners' needs and concerns. Matching practitioners needs with academic interests.
Using **everyday language** when communicating within the project team, as well as in disseminating activities and products targeting the public;	
Establishing and using a glossary to clarify terms can	**Aid in communication** among the science partners and between science and practitioners; needs to be established from the very beginning and updated regularly.
Expecting the unexpected	Unexpected events require scientists and practitioners to **rethink and re-establish strategies** and proceedings together. Having built a good relationship through prior regular exchange aids in this process.

On top of this, researchers must also work alongside practitioners, as they play a leading role in the implementation of workshops and other meetings with stakeholders during the innovation development process as well in each individual Innovation Region.

Researchers work alongside practitioners in the implementation of stakeholder network activities, and to maximise the output of such activities, InnoForESt has highlighted outputs that science teams can offer to support the various work of practitioners (Table 7).

Table 7. Recommendations for scientists/researchers to follow when working alongside practitioners.

Recommendation	Detail
Invest sufficient time into a preparatory phase that includes a systematic and detailed analysis of the status quo	In the case of InnoForESt, this included a stakeholder analysis, an assessment of existing networks and collaboration among stakeholders, and a governance situation assessment. Develop the process for the co-creation of knowledge considering all relevant actors suitable knowledge holders. These activities were conducted in close collaboration between science and practitioners (for more on the methods applied see Sattler 2019/D4.1 and Aukes et al. 2019/D5.1).
Provide hands-on guidance for workshop implementation	Relating to practicalities such as timing, contact calling, in-person visits, but also moderation tools, such as poster templates, interactive methods, documentation and reflection of workshop outcomes, etc. (cf. D5.3 (Aukes et al. 2020c))
Provide practical guidance on tools, methods, and moderation techniques available to use in the workshop	For example, documenting discussions and workshop outcomes in non-academic, everyday language. These materials (D5.1 (Aukes et al. 2019), 4.1 (Sattler, 2019), 5.4(Schleyer et al. 2020), 5.5 (Aukes et al. 2020a) should be tailored to the specific target stakeholder group that are trying to be reached, for example, adapted to the stakeholders' level of education or profession.

Academic Articles

After the completion of the InnoForESt project, members of the consortium will, or are in the process of, publishing academic articles relating to FES in general and/or the Innovation Regions which they worked on (Table 8).

Table 8. Preliminary list for the project's Special Issue "Innovations for FES" with the Journal of Ecosystem Services.

No.	Publication
1	Introduction: Assessing forest governance innovations: Inspiration from innovation studies for forest ecosystem service provision (Mann, C. et al.)
2	EU-wide Overview 1: A dynamic strategy-driven ecological-institutional landscape for ecosystem service provision (Primmer, E. et al. *already published*)
3	EU-wide Overview 2: Innovations for securing Forest Ecosystem Services provision in Europe - a systematic literature review (Maier, C. et al.)
4	Factors influencing innovation: Conceptualization of an analysis framework to identify influencing factors of innovative governance and business models for a sustainable supply for forest ecosystem services (Sorge, S. et al.)
5	From Factors to Prototypes? Sustainable supply for forest ecosystem services in Europe (Kluvankova, T. et al.)
6	Participatory process net-mapping to analyse governance innovations for the provision of forest ecosystem services (Sattler, C. et al.)
7	Assisting in innovation modulation: Constructive Innovation Assessment for FES governance innovation (Stegmaier, P. et al.)
8	Innovation Case study 1: The Role of Self-organized Forest Communities in Innovative Forest Governance: Lessons from Czech Republic and Slovakia (Louda, T. et al.)
9	Innovation Case study 2: Developing a governance innovation strategy for forest ecosystem service management in Primiero, Italy (Bussola, F. et al.)
10	Innovation Case study 3: "Taking care of it all?" Balancing the provisioning of Forest Ecosystem Services through innovation processes in Forest-Wood Value chains in Eisenwurzen, Austria (Schleyer, C. et al.)
11	Swedish Transformation strategy (Krause, T. et al.)
12	Outro: Lessons learned and recommendations for forest policy, business and practice (Guest editors)
13.	Interventi di ripristino di prati e pascoli in Trentino. Riequilibrio del paesaggio e servizi ecosistemici del sistema agro-forestale montano. Sherwood 244, gen-feb 2020 (Gottardo L., Gagliano G., Giovannini G., *in Italian*)

Training

Being an Innovation Action, InnoForESt, research approaches and methods were designed and employed as:

> "A means to conceptually, methodologically, and empirically support actual ongoing innovation work 'on the ground'. The main tasks in the InnoForESt project thus revolved around coordination (between the Innovation Regions and between the overall project and its work packages), assistance (continuous support of the innovation efforts in the regions), and reflection (making content and procedures that had emerged and perhaps even proven in one Innovation Region available to all Innovation Teams) (Schleyer et al., 2020, p. 8)"

It soon became clear in these interactions, that a whole range of skills had to be carried into the broader project and particularly to the Innovation Teams through training offers.
Given the very heterogeneous disciplinary background of project members and the great variety of concepts and methods employed in the project, key training areas had to be reduced to a few common denominators, such as core approaches to preparatory research (on Governance Situation Assessment (D5.4 (Schleyer et al. 2020), section 2.5), cf. InnoForESt Deliverable 5.1 (Aukes et al. 2020); on Stakeholder Analysis (5.4 (Schleyer et al. 2020), section 2.4), cf. InnoForESt Deliverable 5.2, Schleyer et al. 2019), carrying out strategic workshops (CINA approach, cf. 5.4 (Schleyer et al. 2020), sections 3.4 and 4.1, as well as InnoForESt Deliverable 5.5, Aukes et al. 2020a), and documentation of the innovation work (cf. InnoForESt Deliverable 4.2, Aukes et al. 2020b). This was considered crucial for the implementation of a consistent approach to stakeholder participation, prototype creation, and comparability of results. (Schleyer et al., 2020, p. 9)

The main elements of internal training designed and implemented in the InnoForESt project focused on the (Schleyer et al., 2020):

(1) Ongoing assistance and integration activities for the individual Innovation Regions;
(2) Stakeholder Analysis and Governance Situation Assessment;
(3) CINA approach;
(4) Role Board Games;
(5) Institutional mapping;
(6) Platform and network building, including facilitation and training for InnoForESt platform users in Innovation Regions, and
(7) Socio-ecological-technological forest innovation systems analysis.

InnoForESt Deliverable 5.4 (Schleyer et al. 2020) compiles and reflects all related forms of training and/or training events. For each element, the objective(s) and development context, the actual design(s), and key lessons learnt are presented. Here, it is also highlighted that both objectives and design were usually not static but needed to be - and often were - adapted to the project needs and demands for training articulated by the various members of the InnoForESt project.

For example, in March 2018, multiple bilateral meetings with all Innovation Region partners took place, focusing on gradually training these partners in Stakeholder Analysis, Governance Situation Assessment, as well as the CINA approach. The latter was further elaborated on in trainings that took place in September 2018 (a four-hour webinar for all partners throughout the Innovation Regions) as well as in a meeting in Trento, Italy, the next month, as a clinic was carried out, focusing on the scenarios to be used in CINA workshops. Furthermore, in Trento, an introduction, demonstration, and reflection on the Role Board Games was provided.

On top of this, the single method fact sheets present a wide range of methods which can be trained on they can be arranged by various InnoForESt teams' members who have experience working with these methods, thus allowing them to share their experiences with others. These training can take various forms, dependent on the digital or physical component of the innovation platforms. On top of this, lecturing elements will be proactively combined with varying forms of interaction (e.g., narrative development for innovation scenarios or Role Board Games), depending on the targeted audience (or participants), stage of the innovation process, and format (digital or physical). The experiences that stem from these various trainings during the InnoForESt project served as the underlying design of the manual for training practitioners. Indeed, they may stem from the different formats available (e.g., online training materials, webinars, physical workshops) as well as the actual content that is being presented through these various formats (e.g., empirical and analytical tools (Stakeholder analysis, Role Board Games, network analysis) and the introduction to the CINA approach).

These experiences were put together in a training manual (deliverable 5.4 (Schleyer et al. 2020)), containing important information such as the formats and components that worked, as well as elaborate on the required technical, practical and other preconditions which were deemed important for these formats and components to work. This manual also reflects on the experienced factors which rendered specific formats and/or methods ineffective, thus providing suggestions on how to potentially mitigate and avoid such obstacles from occurring in the future and provide alternative solutions.

Fact sheets are also included in the training manual, which focus on various methods and tools developed on, and used by the various WPs throughout the course of the InnoForESt project. Furthermore, other documented governance innovation events and detailed training manuals (i.e., where CINAs or similar were used and applied) are directed to through links in the training manual. Finally, a thorough list of "experts'' in these training methods, stemming from the InnoForESt project consortium or beyond, for either specific method consultation, approaches, or future training events, has been added to incentivise readers to further their knowledge in this field. The manual will be made available online via the InnoForESt web portal. Other training outputs include:

1) CINA developed for IF, but taught not only within:
    a) Master course guest class at HNEE,
    b) CINA classes in UT joint Public Administration/Philosophy of Science and Technology in Society master programme course,
    c) As public workshops in Bochum Summer School Empirische Sozialforschung 2019.
2) Planned summer/winter school on the InnoForESt approach (more details found in deliverable 5.4 (Schleyer et al. 2020).).

Finally, the experiences in the InnoForESt project show the need to pay even more attention in future projects on training in methods (e.g., stakeholder interaction and strategic data collection of these interactions) and skills (non-scientific communication, networking, team building, ability to play the role of change agent). The broad range of methods offered and the tasks to be carried out in the Innovation Regions and by the Innovation Teams was often perceived as overwhelming. Focusing on fewer methods and tasks may have allowed for more in-depth training in those.

Innovation Teams used and 'owned' the InnoForESt approach and the related tools and instruments differently: some really proactively using them and asking for 'help', i.e., training, and thus being 'in charge'. Others, however, felt that these tools and instruments were imposed on them, thus being reluctant to carry them out. It cannot be taken for granted that both scientific and practice partners are readily able to lead group processes, be it to moderate workshops or to motivate and mobilise stakeholders, to organise initiatives and to develop independent projects, which, initially with help of the project and then even without the project, would continue the initiative. This is a typical phenomenon and challenge in transdisciplinary projects yet is seldom sufficiently anticipated and addressed in the composition of the research team and in the project design. Thus, a stronger focus on enabling, i.e., training, scientists and practitioners to work in a transdisciplinary way is strongly recommended for future projects (Schleyer et al., 2020, p. 31).

Accessibility of Outputs

General Dissemination/Output Accessibility

Communication channels and dissemination of materials have been made available via two central means in InnoForESt: the physical innovation platforms composed by the physical space where stakeholders gather face to face in each case study region, and the digital innovation platform as a central data/knowledge storage and communication mean. Existing regional network communication schemes, tools, and experiences from the partners help the project outreach strategy at the European level. Existing project-related platforms provided by third parties were referred to and directly inter-linked as to avoid double structures.

Website

The project website (www.innoforest.eu) served as the main tool for disseminating the project materials and outputs in outreach to the broader public and to exchange information among the project partners, as well as the central information point delivering demonstration videos, news, scientific articles, case study results and entry points to relevant social media and the intended digital 'Innovation Journeys' (formally digital innovation platform). External users of the website can find general information about the project-related activities, and may download public documents, e.g., deliverables, handbooks, infographics, brochures, etc. Additionally, there is an internal members' area secured by personal password/login. ELO has been responsible for collecting and editing the content and subsequently making it accessible for internal or public use and will continue to do so 3 years from date of project completion.

Social Media

A Twitter (@InnoForESt) and Facebook profile (@InnoForEStProject) were set up early in the project and are accessible via the project website. They are managed by ELO/WP6 and HNEE/WP1 with some contributions from various project partners. All project partners are encouraged to post on the InnoForESt Twitter and have been given access.

It is used to share brief updates on the project, relevant information, direct them to the website and blog and share discussions at relevant workshops and conferences with a larger audience online ranging across different sectors and professions, including but not limited to private individuals, academics (students, professors, and researchers), government organisations, NGOs, rural professionals, industry representatives, with tweet impressions averaging between 9.000 and 11.000 with peaks reaching approximately 18.000 and 16.000 impressions.

Facebook reached a wider audience stemming from a variety of sectors and professions including but not limited to private individuals, academics (students, professors, and researchers), government organisations, NGOs, rural professionals, industry representatives. The page's extent is across the European content (including Sweden, Ireland, Poland, Ukraine, and many others) as well as the United States. Follower count at the end of the project includes Twitter: 508 followers and Facebook: 98 likes and 116 followers.

As part of its continued efforts to promote the InnoForESt project and its generated outputs, ELO has already scheduled social media posts at least once a week and for relevant UN and international days on Facebook and Twitter for 2021 (Annexe 1) and will continue to keep these profiles active for at least 3 years after the project finishes with new and interesting content from relevant stakeholders online and share the deliverables created within the project lifetime.

EIP-AGRI

Project deliverables have been submitted and stored on the platform as well as are accessible through the EIP-AGRI platform. Deliverables and outputs will still be submitted/shared on the platform once the project finishes.

Another form of dissemination includes participation in online events and/or activities. One of the dissemination activities includes the EIP-AGRI Service Point communications campaign on forestry, with the goal to highlight outcomes of various EIP-AGRI-related activities and research and inspirational needs. The campaign begins virtually with a social media campaign, utilising the hashtag #EIPagriForest, followed by new items being added to the website. On top of this, the EIP-AGRI newsletter, December edition, will focus on forestry, which will reach more than 7.000 people. Through this, InnoForESt will disseminate the final animated video as well as a press release on the final conference.

Others

Other platforms of dissemination include, but are not limited to:

- Partner organisations have their own websites, which are also used to generate outputs and disseminate them. These are all linked back to the project website as well as linked in videos produced by ELO;
- Partner organisation newsletters
- External newsletters and magazines (e.g., EIP-AGRI communications campaign, The Parliament Magazine and Panorama from the EU Committee of the Regions, FACE newsletter, etc.)

Individual Partner Dissemination

Beyond the actions taken by ELO to disseminate after project completion, partners should also continue to share dissemination information on their end through their websites, either under a section dedicated to their projects or an article. Partners who have already planned out their individual dissemination activities after project completion can be found in Annexe 2.

Output Users and Contactability

Output users include a wide range of users across scales and sectors both within the IRs as well as across Europe (Table 9). They are contactable through the networks created by the partners as well as in their respective IR regions. Future users have the possibility to reach out to the project via direct email or through the project's multiple social media accounts. On top of this, project authors hope the work they have conducted as well as their results serve as an inspiration for more work to foster a sustainable and favourable policy and business environment for FES provisioning and financing around the world.

Table 9. Output users and their characteristics of the InnoForESt project.

Output users	Characteristics
Forest owners & managers	Public, private, large, and small scale, including community forest owners
NGOs & associations	Intermediaries with a mission
Entrepreneurs	With interest in generating profits from selling FES or FES-related products and services
Local-level policymakers	Community or county-level
National- & EU-level policymakers	Interested in attracting innovative businesses that also help secure the future provision of FES
Scientists & research-funding entities	In the field of FES governance

Milestones

This section presents the (potential) milestones for the dissemination work of the InnoForESt after project completion. These include, but are not limited to (and the order does not indicate chronological order or order of importance):

- ➔ Academic publications (Table 8)
- ➔ Social media posts on Facebook and Twitter (Annexe 1)
- ➔ Participation and presentation of project and/or project results at one or multiple EU-level events (e.g., the 2020 Bratislava Conference on Earth Systems Governance in turbulent times: prospects for political and behavioural responses, which has been rescheduled for 2021)
- ➔ Presenting policy briefs to EU-level representatives in Brussels

This is a living list of milestones as they can be updated based on the current situation of dissemination activities and events as unknown events might arise after the time of writing of this document. Furthermore, this list is comprehensive from an overarching perspective, indicating that project partners might have their own milestones of dissemination of project results within their own network, and are briefly elaborated on in Annexe 2.

Financial Aspects

As stated previously, the outputs of the InnoForESt project stem around the central goal of serving as recommendations for interested stakeholders in undertaking a more holistic approach at FES to foster more sustainable FES provisioning governance. Thus, these outputs have not been monetised by the project.

Nevertheless, businesses still play an important role within the InnoForESt project, and in situations where FES-based businesses are developing, then D5.5 (Aukes et al. 2020a) serves as an essential guide, referring to how the project was implemented, serving as an inspiration for replication and methodology transposition for other FES-based projects. However, in regard to the business components of the project itself such as feasibility studies and pricing, interested parties should venture to the IRs themselves for more in-depth information on the commercialisation side of the InnoForESt project (Table 10). The project also recommends interested parties to contact the IRs directly for more information.

Table 10. Financial information and contact details pertinent to each IR.

IR	Financial Information	Contact Details
Austria Value Chains for Forest and Wood	For entrepreneurs, documents elaborating on which products the IR is promoting: https://www.studia-austria.com/en/innoforest/	Dr. Christian Schleyer: christian.schleyer@uibk.ac.at Dr. Wolfgang Baaske: office@studia-austria.com
Finland Habitat Bank	"Economic Insights in Ecological Compensations: Market Analysis with an Empirical Application to the Finish Economy": https://blogs.helsinki.fi/habitaattipankki/materials/publications/?lang=en	Dr. Eeva Primmer contact@habitatbank.innoforest.eu
Germany Waldaktie	(non-state) forest owners who take part in Waldaktie will get financial support from the government (needs to be applied for) and the documents detailing the guidelines are listed Interested parties can seek further advice: https://www.wald-mv.de/Forstbehoerde/Finanzielle%E2%80%93Foerderung/	Dr. Peter Adolphi: contact@waldaktie.innoforest.eu
Italy Forest Pasture System Management	https://forestefauna.provincia.tn.it	Caterina Gagliano: caterina.gagliano@provincia.tn.it
Czech Republic/ Slovakia Collective Governance of Ecosystems	www.cmelak.cz/novyprales	Dr. Jiri Louda: louda@ireas.cz Prof. Tatiana Kluvankova: admin@cetip.sk
Sweden Love the Forest	www.universeum.se	Christa Torn-Lindhe: christa.torn.lindhe@universeum.se Sara Brogaard: sara.brogaard@lucsus.lu.se

Conclusion

This sustainability plan elaborates on the dissemination of project results after project completion, completed by ELO/WP6 and individual project partners. The plan also gives insight into important project results such as policy recommendations and academic articles published. Finally, the plan provides a prospective list of achievable milestones for result dissemination, highlighting the adaptable nature of the list, as future dissemination activities and events might arise in the future which were not yet brought into light at the time of writing.

References

Aukes, E., Stegmeier, P., Hernandez-Morcillo, M. (2019). Mapping of forest ecosystem services and institutional frameworks (D5.1)

Loft, L., Stegmaier, P., Aukes, E., Sorge, S., Schleyer, C., Klingler, M., Zoll, F., Kister, J., Mann, C. (2020). The emergence of governance innovations for the sustainable provision of European forest ecosystem services: A comparison of six innovation journeys (delivered October 2020)

Maier, C., Grossmann, C. (2020). Set of policy recommendations for EU wide governance strategy for sustainable forest ecosystem service provisioning and financing (D6.3)

Sattler, C. (2019). Mixed method matching analysis -Suggested methods to support the development and matching of prototypes to the different innovation regions (D4.1)

Other deliverables all available at:
https://innoforest.eu/enabling-innovation/#fusion-tab-deliverables

Aukes, E., Stegmaier, P., & Hernández-Morcillo, M. (2020a). *Deliverable 5.5: Ecosystems Service Governance Navigator & Manual for its Use*.

Aukes, E., Stegmaier, P., & Schleyer, C. (2020b). *Deliverable 4.2: Set of reports on CINA workshop findings in case study regions, compiled for ongoing co-design and knowledge exchange*.

Aukes, E., Stegmaier, P., & Schleyer, C. (2020c). *Deliverable 5.3: Final report on CINA workshops for ecosystem service governance innovations: Lessons learned.*

Aukes, E., Stegmaier, P., & Hernández-Morcillo, M. (2019). *Deliverable 5.1: Interim Ecosystems Service Governance Navigator & Manual for its Use*.

Kluvánková, T., Špaček, M., Sorge, S., Mann, C., & Schleyer, C. (2020). *Deliverable 3.2: Application Summary of Prototypes for Ecosystem Service Governance Modes—Demonstrator*.

Loft, L., Stegmaier, P., Aukes, E., Sorge, S., Schleyer, C., Klingler, M., Zoll, F., Kister, J., Mann, C. (2020). *Deliverable 4.3: The emergence of governance innovations for the sustainable provision of European forest ecosystem services: A comparison of six innovation journeys*.

Primmer, E., Orsi, F., Varumo, L., Krause, T., Geneletti, D., Brogaard, S., . . . Kister, J. (2019). *Deliverable 2.1: Mapping of forest ecosystem services and institutional frameworks*.

Sattler, C. (2019). *Deliverable 4.1: Mixed method matching analysis: Suggested methods to support the development and matching of prototypes to the different innovation regions*.

Schleyer, C., Kister, J., Klingler, M., Stegmaier, P., & Aukes, E. (2019). *Deliverable 5.2: Report on stakeholders' interests, visions, and concerns*.

Schleyer, C., Kister, J., & Klingler, M. (2020). *Deliverable 5.4: Design on training events to develop innovation capacities and innovation knowledge*.

Varumo, L., Primmer, E., Orsi, F., Krause, T., Geneletti, D., Brogaard, S., Loft, L, Meyer, C., Schleyer, C., Stegmaier, P., Aukes, E., Sorge, S., Grossmann, C., Maier, C., Sarvasova, Z., Kister, J., Louda, J., & Autio, I. (2019): *Deliverable 2.2: Mapping of forest ecosystem services and institutional frameworks – final report*.

Appendix

Annexe 1. Scheduled social media posts for Facebook and Twitter

Date	Content	Twitter	Facebook
19 Nov 2020	What is InnoForESt? Infographic	YES	YES
26 Nov 2020	Swedish IR	YES	YES
5 Dec 2020	World Soil Day	YES	YES
11 Dec 2020	International Mountain Day	YES	YES
22 Dec 2020	#DidYouKnow	YES	YES
5 Jan 2021	Finland IR Video	YES	YES
12 Jan 2021	German IR	YES	YES
19 Jan 2021	Italy IR	YES	YES
24 Jan 2021	International Day of Education	YES	YES
26 Jan 2021	Finland IR	YES	YES
2 Feb 2021	Austria IR	YES	NO
11 Feb 2021	International Day of Women & Girls in Science	YES	NO
16 Feb 2021	D6.3 & Policy Briefs	YES	NO
23 Feb 2021	D6.3 Recommendation	YES	NO
3 March 2021	World Wildlife Day	YES	NO
8 March 2021	International Women's Day	YES	NO
16 March 2021	D6.3 Recommendation	YES	NO
21 March 2021	International Day of Forests	YES	NO
26 March 2021	International Day of Happiness	YES	NO
1 April 2021	IR Infographic	YES	NO
6 April 2021	Italy IR	YES	NO
13 April 2021	Biodiversity/Carbon Sink	YES	NO
22 April 2021	Earth Day	YES	NO
6 May 2021	Swedish IR	YES	NO
10 May 2021	What is InnoForESt? Infographic - Who should act and how should one go about it?	YES	NO

20 May 2021	World Bee Day	YES	NO
27 May 2021	What is InnoForESt? Infographic – Challenges & Solutions	YES	NO
3 June 2021	CZ/SK IR	YES	NO
5 June 2021	World Environment Day	YES	NO
15 June 2021	WP2 Maps	YES	NO
22 June 2021	Austria IR	YES	NO
1 July 2021	German IR	YES	NO
13 July 2021	Italy IR	YES	NO
20 July 2021	Policy Briefs – Forest Owners, NGOs, Entrepreneurs	YES	NO
27 July 2021	Policy Briefs – Local-, National- and EU-level policymakers, Scientists & Researchers	YES	NO
4 August 2021	Dickbauer Sawmill Video	YES	NO
12 August 2021	International Youth Day	YES	NO
26 August 2021	CZ/SK IR	YES	NO
9 Sept 2021	FI IR	YES	NO
23 Sept 2021	InnoForESt was created to facilitate coordination in policy making and to develop novel policies and business processes that support key stakeholders in the sustainable provision of FES	YES	NO
27 Sept 2021	World Tourism Day	YES	NO
2 Oct 2021	World Habitat Bank	YES	NO
15 Oct 2021	Rural Women Day	YES	NO
28 Oct 2021	#ThrowbackThursday to our #finalconference last year. We may have had to go virtual, but we exchanged some interesting dialogue.	YES	NO
11 Nov 2021	WP2 Maps	YES	NO
25 Nov 2021	Swedish IR	YES	NO
5 Dec 2021	World Soil Day	YES	NO
11 Dec 2021	World Mountain Day	YES	NO

Annexe 2. Already established plans of post-project dissemination for individual project partners.

Partner	Post-project dissemination plans
ANE	ANE is promoting all 3 EcoSecs which have been developed in Mecklenburg-Western Pomerania (Waldaktie, MoorFutures, Streuobstgenussschein) and is taking part in the development of new ones as well. The motivation to do so goes back to the conviction that any green growth needs a higher level of consideration of ecological services. The results of InnoForESt will help to further promote this goal, not only in terms of Waldaktie. On one hand, there is the better understanding and description of the benefits and pricing of Waldaktie itself. On the other hand, the multitude of approaches of the different innovation regions demonstrate that there is a wide range of opportunities for improvement. It is not clear so far how the deliverables can be used outside the scientific community. The characterization of "the most successful innovation process" seems to be too sophisticated to those who are interested in one specific topic. Nevertheless, there is a guarantee that the project outcomes will help in terms of the adjustment of new programmes supporting future innovations in the field of ecological services. ANE will use the results to encourage stakeholders to develop new EcoSecs to promote FES, mainly by the communication of ideas and results of the other innovation regions. The deliverables will help to focus political action of the state's government in terms of supporting stakeholders. ANE will use different "channels of communication" to do so: • We will invite the key actors of InnoForESt to scientific workshops and conferences in order to share the project's results to a broader audience. • We will organize meetings of the key actors of InnoForESt with the new agency "EcoSystemServices" which will be installed in the Ministry of Environment soon. • We will potentially organise a Post-Project-Meeting (field trip) in order to catch up on the missed trip of this year. We plan to invite all innovation regions to Germany in order to continue our exchange of experiences.
CETIP	CETIP will co-organize the 2021 Bratislava Conference on Earth System Governance (September 2021) where we plan a special session for our InnoForESt partners to disseminate project results infront of an international audience. We will continue in cooperation with our practice partner IREAS, and together with our expertise, we would like to contribute to the development of innovative activities in our Innovation Region. We have already started a discussion with Cmelak on a possible future cooperation and possible new common projects after the end of the InnoForESt project. Our aim is also to further develop and maintain our online platform, especially in the Czech language: naselesy.innoforest.eu We also plan to contribute to dissemination with scientific articles, e.g., we are working on the following papers: Tatiana Kluvankova, Martin Spacek, Tomas Szabo, Viera Baštáková, Veronika Gezik, Stefan Sorge, Carsten Mann, Stanislava Brnkalakova (forthcoming). Hybrid governance? Long-term sustainability of forest communities in Europe. Will be submitted to the special issue about commons to Ecosystem Services Tatiana Kluvankova, Martin Spacek, Stefan Sorge, Carsten Mann (forthcoming) From Factors to Prototypes? Sustainable supply for forest ecosystem services in Europe. InnoForESt special issue in Journal Ecosystem Services.

FVA	FVA is a regional Forest Research Institute (of the state of Baden-Wuerttemberg) with a large range of public and private forest administration managers, practitioners and forest owners as stakeholders. They are initiators, financers, and supporters as well as the target groups and recipients of FVA's research results. FVA was not a partner in a specific innovation team (neither IR research nor implementation of stakeholder related project activities). Its main tasks were the accumulation, analyses, consolidation and summarizing of individual WP results at different stages of the project to prepare - An "Interim Report on Replicability and Upscaling Potentials of Governance Innovations (favoring provisioning and financing of forest ecosystem services)" (6.2 and Overall Objective 3) - A "Set of policy recommendations for EU wide governance strategy for sustainable forest ecosystem service provisioning and financing" (6.3 and Overall Objective 4) FVA was/is interested in the overall project results and outputs and with focus on their replicability, transferability and relevance for our stakeholders. General information about Final Event and Policy briefs will be taken up by FVA's PR office and distributed via website and multiple social media channels. The final project results and outputs (e.g., reports, policy briefs, fact sheets method briefs and scientific publications) relevant to our stakeholders will be distributed via FVA website and other publications, and - if applicable - in related FVA informational meetings, colloquia, as well as general professional trainings. To increase interest and awareness of stakeholders they need to be addressed in German. Further cooperation with and support by other project partners may be necessary for translations of respective relevant material.
HNEE	The coordination of the InnoForESt projects envisions to make use of project findings for forest policy, business, management and practice beyond the project lifetime. In particular the project website (www.innoforest.eu) that functions as the central knowledge hub, including six regional digital innovation platforms that are anchored in the project's six Innovation Regions are sustained for at least three years after the project ending. The webpage bundles all central results of the InnoForESt Innovation Action, including information about good innovation examples and findings of innovation processes, integrated European maps and databases, material to enable innovations such as a navigator, deliverables, policy briefs, videos, brochures and infographics as well as sustaining contact information. All these products are available online and in suitable digital formats ready for use by a range of stakeholders. Furthermore, a number of 16 practice abstracts have been produced and fed into the European database of the EIP-AGRI common format for Horizon 2020 multi-actor projects and thematic networks. In addition, regional digital innovation platforms serve as central knots for maintenance and strategic enlargement of innovation networks within Innovation Regions that have been successively connected also among Europe regions and MS during the project for knowledge exchange. HNEE remains as a sustainable overarching contact point for further potential knowledge exchange, network maintenance and follow-up activities. On a scientific level, coordination is managing a Special Issue "Governance innovations for sustainable forest ecosystem service provision "with the Journal of Ecosystem Services that will be published in 2021. Further common conference sessions of project findings are planned for the next year(s) such as for the Earth System Governance Conference in Bratislava in April 2021. It is also important to note that WP5 is also developing training materials.

IREAS	We (IREAS) plan to collaborate with Cmelak (IR) in preparation of a project(s) focused on further development of innovation and payments for ecosystem services in Czechia. We would like to spread the innovation and idea to support provisioning of forest ecosystem services to other regions. The aim of such activities should take the form of legislative recommendations to foster the development of payments for (forest) ecosystem services schemes in Czechia. Currently we are working on a digital platform, namely the Czech version. We plan to concentrate the project results and related discussion here. We also added information about the new IR from Czechia and Slovakia - Beskids. We also plan to publish an open access article in scientific journal Ecosystem Services (the special issue connected with our project). This article will be focused on our IR. We also have information about the project on our organisation website (www.ireas.cz). Together with Cmelak, we are working on a video (in English) which will present the innovative activities of Cmelak to a broader international public. This video will be available at our platform, with hopes of being further disseminated by our partners.
Province of Trentino/ UNITN	Results of the biophysical mapping efforts will serve as a basis for the discussion and potential development of long-term strategies and policies at the regional- (Trentino) and interregional-level with the definition of priority areas for FES innovation and financing. Institutional landscape mapping efforts will serve as a basis to innovate governance processes and favour FES innovation implementation. Results of the bottom-up process will disseminate through official channels of the public administration, in order to enhance strengths and weaknesses of the policy implemented within the forestry sector and within closely interconnected agricultural and tourism sectors. UNITN in collaboration with PAT plan on: - Running workshops to discuss governance issues and further innovation strategies involving local stakeholders. - Organising public dissemination events to further disseminate and deliver within the general population the message about the importance of FES, other than just timber production, and the need for innovations within the FES sector. - Further disseminating the project results in scientific conferences to be held in 2021, such as the European Conference of the Ecosystem Service Partnership, the European Landscape Ecology Congress and other national and international events on relevant topics. - Furthering collaboration with PAT to bring InnoForESt results in the next discussion about the development and approval of the New Forest and Mountain Plan to encourage consistency of processes started just before the COVID-19 pandemic outbreak. Both partners plan to run workshops and use institutionally embedded processes to further the innovation process started within the InnoForESt project.
STUDIA	STUDIA will continue to support networking activities among the project stakeholders. To this end, the following activities are planned: a) continued blogging on the Eisenwurzen online platform, b) STUDIA has set up a mailing list at riseup.net (innoforest@lists.riseup.net) to which stakeholders can register and get in contact with each other - STUDIA manages this list. STUDIA will continue to: - look out for innovations arising from the project and will support them, when they arise,

	- connect stakeholders in the region in the context of networking along the forest-wood value chain. we will keep on looking out for new possibilities of collaboration with and for the regional stakeholders, - publish information on the digital platform, - send out interesting news via the new mailing list. If we see interesting ways of collaboration with stakeholders, we will contact them and either start a new project with them or show them ways they can work together.
SYKE	The project outputs will serve as an important basis to continue raising awareness of what ecological compensations are on a general level and how they can be integrated into the practices of different stakeholders. The InnoForESt road maps and one-pagers aimed at private forest-owners, municipalities and businesses will serve as useful tools and step-by-step guidance on how these actors can promote and advance uptake of ecological compensations within their own context. The scientific work realised through the project will also be presented at scientific conferences and papers as to engage more with the scientific community. SYKE will continue work with the Ministry of Environment on the reform of the Nature Conservation Act and the opportunities to add ecological compensations into the Act. We will also seek further funding with other relevant organisations for new projects to research compensations from broadened perspectives such as integrating social values into calculating compensations, compensations and landscape-level planning in municipalities etcetera. The topic remains highly relevant in Finland and SYKE has managed to gain an established position as an expert entity on the topic through the work done in InnoForESt and other projects.
UIBK	In InnoForESt, the UIBK team was closely involved in activities related to all WPs, in particular in WP5 (UIBK was lead) and WP4, but foremost also in the Austrian IR Eisenwurzen, working closely together with the practice partner STUDIA. We are planning to publish IF-outcomes in several scientific journals. Depending on the focus of the article, we will collaborate with other scientific partners from the InnoForESt project like Uni Twente, HNEE, and ZALF, and for those related to the Austrian IR Eisenwurzen, with the practice partner STUDIA. This includes a contribution in the planned IF-SI in 'Ecosystem Services' "*Taking care of it all?" Balancing the provisioning of Forest Ecosystem Services through innovation processes in Forest-Wood Value chains in Eisenwurzen, Austria* (Schleyer, C. et al.)" (as open access). Other articles concentrate on the pre-innovation process and the innovation governance in networks in peripheral rural regions: "*The right time for innovation – Analyzing key factors for stimulating the governance of viable innovations for forest and wood value chains in Upper Austria"* (Klingler, M. et al.); "*Getting innovation started" - Planning a governance/social innovation process for sustainable forest-wood value chains*" (Kister, J. et al.). Further papers focusing on work package related outcomes are planned. Here, UIBK will mainly be co-authors 'only'. To communicate IF-related outcomes, members of the UIBK team will participate in conferences and present oral contributions (virtually or in physical presence depending on the COVID-19 situation) (e.g., Earth System Governance, Bratislava, 2021; Rural geo; 3rd Ecosystem Services Partnership Europe Conference, Tartu, 2021; International Society for Ecological Economics Conference, N.N., 2022). Outcomes and experiences of Innoforest will continue to be used and be referred to by the team members in relevant lectures and seminars at UIBK and other Universities. The UIBK team will remain in touch with the practice partner STUDIA to exchange regularly on ongoing activities within the stakeholder network. Depending on the COVID-19 situation and the development of the regional stakeholder network, it is hoped that InnoForESt results can be presented in the context of a suitable meeting of regional stakeholders, either as back-to-back event, or as input

	presentation, or perhaps even as dedicated Post-InnoForESt event.
ULUND	LUCSUS has a long-term interest in working with various school projects having broad ecosystem services in the centre. InnoForESt has been a great opportunity to advance this and at the same time increase the engagement and research on Swedish forest ecosystems services and policy with a Universeum at the core. We are very positive to continue this collaboration and to take "Love the Forest" to the next level – which would mean planning the detailed setup and implementation of the project and where LUCSUS could have an advisory role in the overall scientific framing of the project as well in supporting thesis development for the students. For the moment, the situation regarding COVID-19 and its impact on next steps is rather profound. Collaboration between key stakeholders including the possibility to do a High School thesis with external actors such as the City of Gothenburg, which make up the key activities in "love the forest 2.0", is limited. In addition, the possibility to attract funding such as through CSR initiatives from Gothenburg private companies has been restricted during this period. We hope to take up discussions again during the month of March 2021. Based on findings developed in the InnoForESt project LUCSUS has also started a collaboration and submitted a project application regarding integrating school classes in ages 10-12 in ecosystems services research in the vicinity of Lund using the methods of Science Shops. Science Shops form links between citizens or civil society organisations and research institutions. They are access points for civil society in cases of problems and research requests based in universities, where research is done by students as part of their curriculum under the supervision of university staff. The project applied for is part of an initiative to create a Biosphere Reserve in the area and involves a mix of actors, besides the schools also three municipalities and NGOs. Having younger pupils to engage in research is a cornerstone of this planned Biosphere Reserve (more info on the area https://www.fagelriket.se/eindex.htm.). The knowledge regarding children's perspectives of forest ecosystem services and the practical experiences developing the innovation jointly with stakeholders gained through InnoForESt has been crucial in setting this up. **Planned dissemination:** Writing a paper for the InnoForest special issue on the possibilities for transformations of Swedish Forest Management – the case of continuous cover forestry Conference on Earth System Governance Bratislava postponed until September 2021: Hertog and Brogaard. Struggling for an ideal dialogue. An analysis of the regional processes within Sweden's first National Forest Program Annual seminar activity in LUMES master's programme at LUCSUS Lund University (March 2021) presenting InnoForESt work and findings with the theme: Forest Intensification and Multiple Ecosystem Services
UNIVERSEUM	Universeum believes in life-long learning. It is never too early nor too late to acquire new knowledge about the world. And knowledge is what is needed if we are to achieve the Global Goals by 2030. As a science centre, we have an important role to play when Sweden transforms into a sustainable society. The Global Goals for Sustainable Development have been our platform for many years. Based on this, we develop our content to meet the needs of the outside world. A digital switch-over, strengthened skills supply and improved achievement of targets in schools are some of them. Therefore, the innovation Love the forest developed during InnoForESt is a project in direct line with the plan ahead. No one wants to start implementing this innovation more than Universeum right now. Crisis measures notwithstanding, we are still

	struggling with low visitor numbers and thus large revenue losses due to the COVID-19 situation. Other factors hindering us from implementing Love the forest at the moment are that the high school curriculum and thesis-work is or might be altered due to COVID-19. For the same reason the business opportunities for CSR work and funding is small - companies tend to invest in saving themselves. On the other hand, the climate challenges are prioritized for all actors in our network, so we know that they want a project like Love the forest. We also know that they like it, since they have been involved through-out the development process. And both Universeum and the city and region of Gothenburg are in an exciting development phase, investing in sustainable community building, citizen dialogue and increased public awareness which gives hope for the implementation of projects such as Love the Forest in the near future.
ZALF	The knowledge gained in the InnoForESt project, concerning the facilitation of innovation development, will provide valuable input for the quality improvement of new upcoming projects. We will apply similar sets of methods for transdisciplinary work in a multi-actor approach. We will most probably continue working with the practice partner in the German IR. We aim to conduct a self-evaluation of our work done in InnoForESt; document these results and produce an internal report and guidance on method application and process management.
UT	Thanks to the project, UT was able to further develop sales of the Constructive Innovation Assessment and test it for the first time. We will not only report on this in InnoForESt Deliverables 4.2, 5.3 and 5.5, but also write essays. We teach the approach at the UT and the HNEE, also using examples from the project. A workshop format for innovators from the area of ecosystem services is planned for next year. We will set up our own section on CINA at https://cta-toolbox.nl/ .

Annexe 3. Business Development Plan

Table 3.1. Business Development Plan (BDP KER Form) problem and customer definition

Problem
Global environmental problems, increasing urbanisation, industrialisation pressures, and market dynamics hamper the balanced provision of the full range of forest ecosystem services (FES). At the same time, societal demand, particularly for regulating and cultural FES is increasing. Yet thus far, forest owners are usually unable to generate revenues off the broad range of ecosystem services their forests provide, besides for provisioning services such as timber and non-timber forest products, forcing them to base management decisions on marketable goods, mainly on timber production. - Timber prices are down and will not be changed in the next few years because of climate change and climate change related disturbances such as droughts, storms and forest fires. This will increase, especially where monocultures and low levels of biodiversity are common. Nearly all forests in Europe are manmade and influenced by human activities. Many of these forests are less prepared for increase of temperature and many forest owners will lose timber and financial resources. One opportunity to diversify their income presents the payments for ecosystem services by acknowledging the efforts of foresters and their services from forests they support to maintain. One theme is scenery, beauty and recreation that supports the tourism sector and can bind tourists at the same time to a region for a long time. - Migration from rural areas to cities (i.e., Italian case of InnoForESt) and few working opportunities are another problem we find challenging: FES, innovative network approaches and payment schemes can provide new job opportunities in rural areas. New network approaches can help local value chains to develop themselves, using the FES approach. At the same time, societal demand for often non-marketable cultural and regulating FES, such as recreation, biodiversity, water retention and carbon sequestration, continues to increase on public and private land. Currently, the provision of FES, particularly regulating and cultural FES in Europe, is largely facilitated through public land management. On public land, the opportunity costs incurred due to reduced timber sales are largely accepted. Different countries provide different policies, laws and regulations, administering forest and FES management also on private land, including some financial support programmes for changes in private forest management such as compensating income lost due to e.g., nature conservation requirements. Still, existing strategies and initiatives at the European and pan-European level have not been able to effectively and sufficiently address the under-provision or under-valuation of regulating and cultural FES and the costs for their targeted management, especially in private forests. Established market mechanisms appear to provide insufficient incentives to realise this objective. As a result, demand for non-marketable FES continues to exceed its short-term economically viable supply, causing social costs and often one-sided policy and forest management decisions. InnoForESt's objective has been to identify, analyse, and enhance innovative governance mechanisms targeting especially private market-based approaches such as payments for ecosystem services that show potential to become alternative or complementary means to currently predominantly public efforts of securing FES provision and financing (D6.3).
Customer Definition
Directly: forest owners, NGOs, politicians – businesses: the whole value-chain of timber products (example from Austria), provider of (agro)forest-food products (honey, milk, meat, …), **Indirectly:** tourists, customers of "forest" products,

Table 3.2. BDP KER Form, alternative solution presentation

Alternative solution	
How have the target groups tried to address this issue so far?	Continue business as usual: although the importance of regulating and cultural FES is directly or indirectly recognized in most EU and national forest related policies, strategies and laws for biodiversity conservation, forest and the Forest-based sector, and the bioeconomy (see Primmer et al. 2018/D2.1), forest owners are generally hardly rewarded for their provision. One prominent programme for supporting forest management for the provision of currently non-marketable FES is the Natura 2000 network payment, which provides lump-sum payments per hectare managed primarily for biodiversity conservation which is assumed to make up for "income forgone". The programme shows achievements all over Europe, but much slower than scheduled, as in many cases these public compensation payments are not acknowledged to be equivalent to the income forest owners make managing the forest for harvestable timber, especially not in fertile forest stands. Consequently, innovative governance mechanisms that better include private business-related approaches and payments for ecosystem services are sought to complement, upgrade or even supersede legal requirements and publicly funded FES development programs. Local level initiatives throughout Europe are already working on new ways to align forest management and the development of forest-based products with the provision of all types of ecosystem services based on increasing and diversified societal demands. These initiatives are often driven by forest-related private business endeavours in combination with an inherent idealism to promote but also benefit from the appreciation and valuation of regional FES, alas with variable levels of success, economic sustainability and potential for replicability. Policy makers on all administrative levels are interested in options for action to better support these kinds of initiatives for the sustainable provision and financing, in particular of currently non-marketable FES.
Our added value:	The InnoForESt project – a Horizon 2020 European Innovation Action – has therefore been created to support enhanced coordination in policy making, and to facilitate the improvement, development and mainstreaming of policy and business innovations dealing with or affecting FES (InnoForESt Grant Agreement p.29). This shall foster the sustainable and economically viable provision of a broad(er) range of FES across Europe, in particular those that lack market values but are of tremendous importance for societal wellbeing, i.e., cultural and regulating FES. For this endeavour, an inter- and transdisciplinary consortium has been formed by 16 institutional project partners from nine European countries to include about the same number of scientists from different universities and research institutes on the on hand as well as practitioners from different fields and organizational affiliations on the other. The scientists involved in this project represent a variety of disciplines. Their academic work has been organized in individual Work Packages (WPs), each with a particular thematic focus. The practitioners work in different capacities and represent, for example, NGOs, public administration, and private business engaged in local level initiatives related to FES provision and financing. Finally, some of the scientists are working very closely with or even for a practice partner organisation, taking on a kind of 'hybrid' role and acting as a liaison between academia and the implementation level (see also InnoForESt Grant Agreement). (source: D6.3)

Table 3.3. BDP KER Form, USP, UPV, and Description presentation

USP: Unique Selling Point **UVP:** Unique Value Proposition	InnoForESt stakeholders employed a unique methodology called 'Constructive Innovation Assessment' (CINA), which is based on a scenario-based methodology previously developed for assessing newly emerging technologies called Constructive Technology Assessment (CTA). A key element of CINA is developing alternative scenarios for different governance innovations and engaging all relevant actors together at an early stage. It entails a series of workshops, which allows for a continuous innovation development. One or more workshops focus on innovation analysis and visioning, prototype development, and road-mapping. This methodology was instrumental in bringing stakeholders together and building networks that work together towards the common goal of sustainable FES provision. CINA can be applied to similar initiatives as it is highly adaptable. The approach is complemented by a set of further analysis such as stakeholder analysis, governance situation assessments, role board games, and extensive integrated biophysical and institutional mapping on EU level showing FES supply and demand.
Description	Payment mechanisms (PES) and business approaches financing the provision of FES require a clear denomination of the (different) FES addressed, clearly defined FES-related objectives and context specific, adapted solutions.
	Securing FES provision and financing hinges on public policy and support which can be integrated into public policies and initiatives that already exist in the fields of rural economic development, climate change resilience, and biodiversity protection.
	Currently policy demand for FES provision is largely reactive to shortage. Needed is a turn towards proactive policy formulation for sustainable FES provision and securing.
	FES assessment and monitoring systems should be prerequisites for respective public support and should include data on ecologic forest conditions, societal demand for FES, as well as information on the institutional setting and economic revenue streams.
	The biggest political potential for advancing means for the sustainable provision of FES lies in the further development and implementation of the 'Green Deal' and the Forestry Strategy provided the structural change actively integrates the important role of multifunctional sustainable forest management.
	While FES-related innovation systems are inherently a context-bound social-ecological-technical issue, a certain level of homogenisation of national FES-supportive regulation and legislation within the European Union is expected to enhance FES provision and financing.
	Building diverse stakeholder networks is important for local level governance innovation development. Forest owners and managers play a key role in these networks.
	Findings indicate that the potential of private market based innovative governance mechanisms is limited to complementing policy led and public efforts to secure FES provision and financing.

Table 3.4. BDP KER Form, market characteristics

Target Market	First and foremost, the forest owners and managers that are seeking to earn from forest resources, hence complementing the portfolio of forest products and services. InnoForESt seeks to present them with alternative governance means such as PES and network approaches/actor alliances and methodologies which could potentially affect their management decisions. Given the different biogeographic and national legal and economic frame conditions of forestry within Europe it is not easy and often not supported to unify forest policy at European level. However, there are certain overarching notions which prevail throughout all forests of Europe; one being that forestry is one of the central sectors that serve a role in mitigating climate change and another promoting the societal and ecological value of non-marketable FES. So far, the local partners are still in the process of developing solutions that may eventually result in a self-sustaining, economically viable (business and financing) model of FES provision. The recommendations are therefore based on InnoForESt's experiences trying to initiate and support processes that show potential to reach the objective of self-sustaining business models for FES provision and financing. The project results suggest that all six targeted actor groups can contribute to securing FES provision and financing.
Early Adapters	Forest owners, managers and further collaborating stakeholders such as administration, tourism, farmers, timber-industry that decide to diversify their management strategies to incorporate FES other than timber. This will work best if a variety of stakeholders are involved in the joining processes.
Size	"In 2018, about 401,000 enterprises were active in wood-based industries across the EU, representing 20% of EU manufacturing enterprises." (Eurostat). For each governance and business model we looked at, we have given this statistic, the potential market size for the project is quite substantial. Additional to this part, comes the tourism sector (Italy), construction companies (Finland), agro-forestry companies, educational businesses (Sweden), and new markets could be created, e.g., forest owners that are NPO related (e.g., churches) and related NGOs or communities that own forests – on a global, not just European level
Trends	The trends in those markets will and have to be towards the integration of ecosystem approach because climate change is ongoing, policies are made, such as the Paris agreement and climate change mitigation and adaptation activities will be implemented, because the goals will not be reached only by instruments such as renewable energy and resources. This requires a change of current businesses and new ones and is supported by a rising awareness of the society and their demand. The political basis is set, but the instruments to reach the goals are not developed so far.
Competitors	Atmosfair, Bauminvest, alternative sustainable wood products, conventional wood/forest products. The project is competing directly with the timber industry that requires a management focus on timber production. The project seeks to find alternatives to timber-based products as a source of revenue for forest owners and managers and focuses on the other services that forests provide that are largely ignored by society. Timber industry strengths include large profit margin, well-established industry, global market, and it being one of the few marketable FES. Timber industry weaknesses are the fact that it is unsustainable - contributes to climate change on a global scale

Table 3.5. BDP KER Form, settings presentation

Acceptance	
Public acceptance	So far, the innovative approaches we looked at during the project were broadly accepted by locals, including related private and public sectors, and civil society. There were critical voices from NGOs or a few other actors on the general concept on such approaches (monetizing nature, difficulty to analyse "real" impact, etc.). A deep analysis of the acceptance, implementation, or influence of public or public-private funding programmes was not within the objectives of the project. But due to the multi-actor approach of the project that inherently builds on stakeholder participation and inclusion for the co-design of FES provisioning strategies, it is assumed that resulting governance innovations are societally embedded, thus work on a sustainable basis.
Social impact	• Natural disaster/risk management for local community • Additional types of FES-related payments for forest owners & managers • Policy change to support the sustainable provision of the FES (such as the EU Forest Strategy) • Contribute to more sustainable land use and management • Cultural service benefit to community • Rural development and innovative job opportunities
Env. impact	Sustainable use and management of forest ecosystems used for the provision and supply of FES
Economic impact	Direct compensation schemes and indirect payments through timber-based value chain income from non-sectoral economic activities based on FES
Legal and regulatory aspects	
Legal support by instruments such as funds for interested parties, i.e., compensation for travel and participation of local stakeholders – network development. Governance mechanisms (potential) impacts on forest management, FES provision, and forest-based income can vary considerably. These are three distinct elements and not necessarily mutually reinforcing. FES are closely related to several economic sectors, societal interests, and policy fields. This interdisciplinary, cross-sectoral nature of FES provision offers both opportunities and challenges. Most importantly, it demands continuous reflection on a governance innovation's (potential) effect on forest management, FES provision, and forest-based income, which are distinct and not necessarily mutually reinforcing elements. In this context, it is important to acknowledge that different governance mechanisms have different implications for these three elements. The impact is furthermore strongly dependent on the local context. As illustrated by the InnoForESt IRs, a governance mechanism's implications for forest management and FES provision ranges from very indirect (e.g., IRs Sweden, Austria) to very direct (e.g., IRs CZ, DE, FI); as a result, a successful innovation process does not automatically imply successful securing of FES provision, particularly in the long term. Likewise, an innovations' expected impact on forest management practices and its contribution to sustaining future FES provision can vary considerably and are not necessarily mutually reinforcing – i.e., strong impact on forest management does not automatically imply strong increase in FES provision or vice versa. Not the least because the innovation's impact on FES provision must be put into context to the initial level of FES provided in a particular place. For example, the governance innovations in the IRs in Finland and the Czech Republic are expected to have a strong impact on forest management, as biodiversity conservation did not play a dominant role in past forest management practices. Here, the level of FES provision is expected to increase. In the Italian IR, the governance innovation is expected to maintain a well-established type of forest management to halt the further loss of FES provision; the governance innovation is expected to maintain the high level of FES already provided. These insights about the variable relationship of governance mechanism, forest management implications, and impact on FES should be applied both with regard to stakeholder network building processes, the development of innovative income opportunities, as well as the development of payment mechanisms for FES provision.	

Table 3.6. BDP KER Form, Go to Market characteristics

Use model	Use model: we do not have a competent organisation with procedures, insurances, certifications ready to offer the services, we just instruct them how to go about it. InnoForESt has set up a website as a central knowledge hub, including six regional innovation platforms that are containing tools, guidelines, handbooks and a navigator to assist successful governance innovation development for the forestry sector (www.innoforest.eu). In addition, innovation networks have been established/enlarged during the project in six Innovation Regions that became connected, spanning over various EU member states and regions.
IPR Foreground & Background	N/A
Timing	The InnoForESt methodology and policy and business recommendations are fully usable by the end of the project.
Channels	Possibility would be to work with consultants active in this business environment to "sell" the approaches. The InnoForESt website is the main hub that will be accessible to the public even after the project ends. Early adopters have access to all the products that the project promotes. The social media pages will also remain active. In addition, Practice Abstracts written on the project outputs will be shared on the EIP-AGRI database online.

Table 3.7. BDP KER Form, the Team

Internal Providers	ELO HNEE Rest of the consortium
External Providers	N/A

Table 3.8. BDP KER Form, Exploitation roadmap

Actions	The consortium will be mainly focused on finalising reports to the EU regarding the end of the project. The Bratislava Conference on Earth System Governance as well as the European Ecosystem Service Partnership Conference are scheduled for 2021 and several consortium members will be presenting their InnoForESt publications. A dedicated Special Issue on FES governance innovations with the Journal of Ecosystem Services is scheduled for publication in 2021. Social media posts and the project website, including the six regional innovation platforms will remain active and are supported for at least 3 years after the project.
Roles	Work Packages 1-7: entire consortium delivering Bratislava Conference on Earth System Governance: CETIP, IREAS, HNEE & others Social Media Posts/Project Website communication: ELO (lead), HNEE & others
Milestones	*See section of deliverable titled "Milestones"*
Impact in 3-years' time	Wood-based industries represent 20% of EU manufacturing enterprises (Eurostat 2018). This suggests the importance of forests for the region's economy. The methodology and innovations promoted by InnoForESt have the potential to contribute to making the forestry sector of the economy more in line with regional (EU Biodiversity Strategy, Climate Action Plan) and international environmental goals at the same time continuing to make forest management economically viable for stakeholders. More sustainably managed forestry resources mean continued provision of forestry ecosystem services for society.