



# Adjustment of silvicultural practices, adoption of new technologies and dissemination drive innovations for forest adaptation to climate change in Europe

## Why innovations matter for adaptation to climate change in forestry?

Forests play a key role in many European policies helping to mitigate the effects of climate change. With increasing natural disturbances, adaptation to climate change has become an essential element to increase forests' resilience. In fact, according to FOREST4EU results, climate change is the major driver of innovation across Europe favoring the development of new technologies, products, and services. Innovations for adaptation to climate change in forestry promote the adjustment of silvicultural practices with use of new technologies (decision support tools and remote sensing), based on better and faster knowledge dissemination, and new forms of collaboration. Key innovation themes emerging from Operational Groups (OGs) working on climate change adaptation include adaptive forestry practices, the integration of cutting-edge technologies and development of decision-support tools, and robust strategies for knowledge transfer, stakeholder awareness, and effective communication.

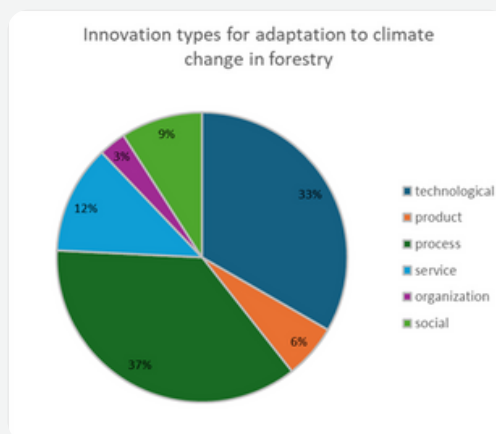


Figure 1: Types of innovation for adaptation to climate change in forestry



## Who can do what?

EU and National policy makers, in agreement with regional and local authorities, can create enabling frameworks that support participatory governance, fostering transparency and better and faster dissemination of solutions.

The EU CAP network can share knowledge and information about agriculture, forest and rural policy. It would be relevant to mobilize the focus groups, created ad hoc, with the participation of around 20 experts each through Europe, to build upon their expertise in the forest and agroforestry sector and their potentialities to adapt to climate change based on the most recent data and knowledge available.

At operational level, forest owners and managers should be involved by research organizations to co-create innovative solutions ensuring transferability and adoption of the new practices.

## Policy implications

Innovative adaptive forestry requires support for long-term R&D projects to properly analyse the results of experiments. Their follow-up will help produce technical guidelines for operations. Harmonisation of protocols at European level and standardisation of methods and data collection, between public and private forests are necessary to encourage collaboration and improve the precision and replicability of results. The high demand for new technologies, decision support tools and remote sensing data require specialized knowledge. Under well-controlled conditions, the use of AI can contribute to the development of new decision-making tools. Integrative platforms that combine different tools and data are needed to facilitate and accelerate administrative procedures, as well as decision making, and to develop more accessible and user-friendly applications. Even once widely disseminated, the best knowledge and practices still need to be adopted by end users. Forest advisors and other stakeholders must create and maintain relationships of trust which requires ongoing support and animation through extension activities.





## Conclusions

Adapting forests to climate change must become Europe's top priority to safeguard their vital functions such as wood production, carbon storage, water regulation, and biodiversity on which we base our survival and well-being. Emphasis should be placed on supporting forest owners and decision-makers in the evolution of their practices.

Innovative climate change adaptation in forestry highlights the importance of adaptive practices, field experimentation, advanced technologies, decision-support tools, and effective communication as key drivers of resilience. There is a strong demand for new technologies and decision support tools, in particular remote sensing data, and for administrative simplifications by the mean of automatic incorporation of results from those tools. Developing long-term R&D projects and networks with harmonized protocols and stable funding at EU level are crucial to obtain reliable and comparable results for all member states.

### About FOREST4EU

The key objective of FOREST4EU, funded by the Horizon Europe program, is to connect Operational Groups across Europe, fostering synergies and facilitating the exchange of best practices. The project is actively collecting and disseminating valuable information developed by these OGs, creating a central resource for the forestry community.



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