

Summary Report

Fireside Chat

The future of wood mobilization under climate change adaptation in Poland. A science-business exchange



25 June 2026

14.00 - 18.30 CEST

Warsaw, Poland

The fireside chat on "The Future of Wood Mobilization under Climate Change Adaptation in Poland – A Science-Business Exchange", organized by Teaming Up 4 Forests (TU4F), brought together leading experts from science, forestry, and industry to discuss how climate change is reshaping forest ecosystems, management practices, and wood supply dynamics in Poland and across Europe.

Through keynote presentations and a moderated discussion, participants explored the implications of accelerating climate change for forest resilience, adaptive management, and the future availability of wood resources. The exchange provided a platform to reflect on how forests and the forest-based sector can remain resilient and productive under increasing climatic and societal pressure while continuing to deliver essential ecosystem services, including wood resources.

This report summarizes the key scientific inputs, discussion points, and response options identified during the event. It is intended to support continued dialogue and cooperation between science, industry, policy, and other stakeholders on climate change adaptation, sustainable forest management and wood mobilization, and communication across the forest-based sector.



I. What does science tell us?

Overview of anticipated climatic change in Europe and implications for land use and forest management (Dr. Florian Kraxner, International Institute for Applied Systems Analysis)

Climate change is the dominant driver of current and future challenges for European forests. Rising temperatures and shifting precipitation patterns, both in timing and magnitude, are altering site conditions across Europe. These changes can increase drought stress, reduce soil moisture, and weaken forest resilience, leading to reduced growth and increased mortality.

Climate change also intensifies natural and anthropogenic disturbances such as bark beetle outbreaks, storms, and forest fires. Forest fires are projected to increase substantially in size, severity, and intensity, with burned areas in Europe expected to rise significantly under future warming scenarios. Drought is identified as a key driver of forest mortality.

Climate change impacts vary across regions, species, and management approaches, making adaptive, site-specific forest management essential. Forest adaptation therefore requires sustainable management strategies combined with locally tailored nature-based solutions to maintain multifunctional, climate-resilient forest ecosystems.

Forest monitoring and remote sensing data for forest resilience under climate change (Prof. Krzysztof Stereńczak, Forest Research Institute of Poland)

Remote sensing technologies play a central role in monitoring forest resilience under changing climatic conditions. A broad set of indicators, such as forest structure and health, can be assessed using active and passive sensing technologies.

These technologies enable analysis across spatial scales, from the global level to individual-tree characterization. Advanced methods, such as LiDAR-based approaches, allow detailed monitoring of tree height, species composition, and tree mortality, revealing early signs of stress as well as long-term changes in vitality and productivity.

Remote sensing is particularly valuable for tracking changes in forest condition, structure and species composition over time across large and/or inaccessible areas. Yet, its effective implementation requires continuous methodological development and integration of new hardware and analytical techniques.

Long-term perspectives on forest management, silviculture, and wood production in Poland (Prof. Jarosław F. Socha, University of Agriculture in Krakow, Department of Forest Resources Management)

Climate change combined with anthropogenic pressures is reducing forest stability in Poland. Forests that do not match site conditions, older stands, and those growing on fertile or previously drained sites are particularly vulnerable to drought-induced mortality.

Observed trends, including widespread soil moisture anomalies and increasing sanitation felling explain rising levels of disturbance. The risk of tree mortality is strongly influenced by stand age, density, site conditions, and climatic water balance, highlighting the importance of adaptive silvicultural strategies.

Future forest management must therefore focus on adapting species composition to changing climatic conditions, identifying vulnerable areas early, and implementing timely regeneration and stand conversion measures. Thinning can further enhance forest resilience by reducing competition and increasing stand stability. Avoiding species-site mismatching in reforestation is important to ensure forests are better adapted to future environmental conditions.

At the same time, ongoing disturbance processes are expected to disrupt wood supply, increasing variability and potentially causing large volumes of unplanned timber supply over short periods

Future of forest industries, processing, and wood/forest products markets in Poland (Dr. Zbigniew Karaszewski, Poznań Institute of Technology)

The forest-based sector in Poland is undergoing structural and technological transformation driven by both market forces and climate-related constraints on raw material supply. Key trends include consolidation of wood processing industries, declining quality of raw material, and greater emphasis on engineered wood products.

At the same time, global and European market dynamics, such as rising demand for wood and price volatility driven by energy costs and trade disruptions, are reshaping the sector.

A key strategic direction is the transition toward a circular wood economy based on reuse, recycling, and extended product lifecycles for wood materials, with the aim of reducing waste and resource extraction. To maximize material value and carbon storage, a cascading use of wood is recommended, where materials are used sequentially from high-value products to

energy recovery. In addition, wood is increasingly promoted for material substitution, replacing carbon-intensive and non-renewable materials such as steel and cement, thereby lowering emissions and increasing overall sustainability.

Overall, the sector is expected to see a growing importance of hardwood species, increasing competition between material and energy uses of wood, and a rising degree of automation and digitalisation in processing and production.

II. Moderated discussion



Following the scientific presentations, participants took part in a moderated discussion to reflect on the presented insights. First, representatives from science, industry, and forestry identified issues they considered most relevant in the context of the scientific input presented, and discussed their implications for forest management, wood mobilization, and the future of the sector. The contributions were grouped into main themes allowing for a structured discussion on the most important issues and associated challenges. This was followed by another round of participants' input to think of potential response options to those challenges, including ***“who needs to do what in the future to change or address the challenges”***.

The main outcomes of the moderated discussion are presented below according to the “main themes.” Under each of these main themes, the various issues discussed and related response options are listed as presented below.

Main themes and response options

Climate change adaptation and future forest management

Issues raised:

- **Adapting forests to climate change identified as one of the sector's most pressing challenge:** The discussions highlighted the need to move away from business-as-usual forest management by adapting species composition and strengthening forest resilience to prepare forests for future climatic conditions.
- **Importance of maintaining the multiple functions of forests while considering future wood demand in today's silvicultural decisions:** Issues discussed included reduction in tree growth; restrictions on planting suitable non-native species; wood harvesting plans in forests with increasing tree mortality and disturbances; and restoration of forests to minimize mortality and overmature stands.
- **The role of industry in forest management:** Participants addressed issues such as choice of future species portfolios useful for the industry; preparedness of forest management to cope with increasing disturbance events; and fluctuating harvest volumes.

Response options:

- **Accelerate adaptive forest management:**
 - Climate adaptation requires proactive forest management – act now!
 - Investing in future tree species and introducing new species where appropriate with industry to have some say in future species portfolios.
 - Making better use of existing forest stands to prepare for future conditions ensuring that adaptation measures are implemented early.
 - Restoring of forests to minimize mortality and overmature stands.
 - In the long-term, aim at medium-aged forest stands for wood production.

Wood supply, value chains, and competitiveness

Issues raised:

- **Ensuring a stable and predictable wood supply emerged as a major concern:** Participants discussed the impacts of climate change on supply stability, including the risks of both, oversupply following large-scale disturbance events, and subsequent shortages.

- **Poland has a unique position due to state forest control**, providing competitiveness to the wood industry; this is unique in the European context but currently not valued by society.
- **Long-term allocation of increasingly scarce wood resources**, raising questions about how available wood should be prioritized among competing uses and how future demand can be reconciled with societal expectations regarding forest management and harvesting.
- **Apparent inconsistencies between Europe's high forest growth and the perceived shortage of available wood**, pointing to challenges in wood mobilization additional to the challenge of resource availability.
- **Fragmented private forest ownership across Europe**, including in Poland, was recognised as an additional challenge for efficient wood mobilization.

Response options:

- **Improve long-term planning of wood supply**
 - Better understand risks across the forest value chain,
 - Wood practitioners and state forestry to promote the competitiveness of the forest-based sector as value to society.
 - Identify practicable approaches to financing future forest management and forest rehabilitation.
 - Develop clearer long-term outlooks for future wood availability over the next 20-50 years (including early warning systems on forest disturbances) to support investment decisions and industrial planning.
 - Efficient use of harvested wood resources as an important contribution to future resource security.

Communication, public perception, and science-based decision-making

Issues raised:

- **Participants expressed concern that public and political debates are increasingly shaped by simplified narratives about forests rather than scientific evidence.** This includes that some narratives frame forests primarily as climate and biodiversity “saviours”, while overlooking forest ecosystem functioning and forest mortality dynamics.
- **Growing public misconceptions and declining acceptance of forest management** leading to increasing distrust of forestry expertise. People perceive old and

unmanaged forests as good while viewing wood harvesting (with machinery) as environmentally unfriendly interventions into forests.

- **Industry view: forest management is no longer defined by science but by political conservation trends.** How to reach balanced scenarios for all stakeholders?

Response options:

- **Generally, Strengthen collaboration and communication across the forest-based sector.**
- **Participants emphasised the need for a coherent and compelling narrative on sustainable forestry shared across all stakeholders in the forest value chain through science-based communication.** Proposed measures include
 - Coordinated communication campaigns,
 - Engagement with professional marketing partners,
 - Improved outreach through social media,
 - Education of children and the wider public, and
 - Collaboration with other sectors to improve societal understanding of sustainable forest management and wood use.
- **An effective public wood campaign targeting end users** such as the “Grow the solution” initiative (FAO, COLI Austria) needs partners in the construction and paper industries by addressing shared challenges.
- **Across all efforts, communication must remain credible, transparent, and based on scientific evidence.**

Forest policy and regulatory frameworks

Issues raised:

- **Participants questioned whether current European and national policy frameworks adequately support climate adaptation in the forest sector.** Main concerns include:
 - Emphasis on Land Use, Land-Use Change, and Forestry (LULUCF) framework, places disproportionate pressure on forests to function as carbon sinks, while allowing emissions reductions obligations in other sectors to be relaxed.
 - Carbon farming and carbon trading mechanisms, as financial instruments are being misapplied.
 - Forest management, including harvesting volumes increasingly driven by politics rather than good management practices and science.

- **Forest owners are constrained by forest policy frameworks** regarding forest management for wood production, including species selection, rotation length and silvicultural systems.
- **Conflicting expectations by policy and society regarding forests.**

Response options:

- **Policy frameworks need to be reviewed in view of climate change** (both at EU and national levels)
 - Reinforcing joint calls for a review of current policy frameworks to better enable adaptive, site-specific, and future-oriented forest management.
- Forestry sector to engage with policy levels to promote a common understanding on forest resilience and fair allocation and use of wood resources for the industry.

III. Summary and take-away messages

Key messages from scientific presentations

The scientific presentations highlighted the main climate, ecological, and structural drivers shaping forests and the forest-based sector in Europe and Poland. Based on these inputs, the following key messages emerge:

- **Climate change impacts on forests:** Climate change is the dominant driver of forest change in Europe, increasing drought stress, reducing resilience, and intensifying disturbances such as fire, storms, and bark beetle outbreaks. Addressing this requires adaptive and site-specific forest management.
- **Forest monitoring and remote sensing:** Remote sensing is highly useful for monitoring forest condition and resilience across scales, enabling early detection of stress and long-term change.
- **Forest management and wood supply in Poland:** Combined climate and anthropogenic pressures are reducing forest stability and increasing disturbance risks, making essential to ensure more stable forest development and wood supply the early identification of vulnerable areas and a timely adaptive management.
- **Forest-based sector transformation:** The sector is undergoing structural and market-driven change, with a shift towards circular wood use and cascading systems, and an increase of automation and digitalization.

Key messages from moderated discussion

The moderated discussion highlighted recurring priorities and concerns expressed by representatives of the forest-based sector in response to the scientific presentations. The following key messages emerged:

- **Climate adaptation requires immediate action:** Participants agreed that climate change demands a shift away from business-as-usual forest management. Adaptive silviculture, timely regeneration, appropriate species selection, and restoration measures to increase forest resilience were seen as essential to safeguard future forest functions and wood supply.
- **A stable and predictable wood supply is critical:** Maintaining long-term wood availability while coping with increasing disturbances was identified as a major challenge. Participants stressed the need for better long-term planning and improved preparedness for fluctuating timber harvesting volumes.
- **Policy and societal expectations need to better reflect scientific evidence:** Participants expressed concern that forest management decisions are increasingly shaped by political and societal narratives rather than by science. They highlighted the need for policy frameworks that enable climate adaptation while recognising the role of sustainable forest management in delivering multiple forest functions.
- **The forest-based sector needs a common, science-based voice:** Participants emphasised the importance of coordinated communication between science, forestry, and industry to improve public understanding of sustainable forest management, strengthen trust in scientific and practical expertise, and promote wood as a sustainable, climate-friendly raw material.

All in all, the discussions confirmed the growing challenges of sustaining resilient and productive forests capable of delivering multiple ecosystem services under accelerating climate change and increasing societal pressures. As transpired from the exchange, such challenges can only be addressed through intensified dialogue and cooperation among all relevant stakeholders, including science, forest management, industry, and policy, as this fosters mutual understanding enabling joint, coordinated action. As expressed by participants, the format of this fireside chat positively contributed to enhancing the needed dialogue within the forest-based sector in Poland and should be expanded to include additional stakeholders from other relevant segments of society.