

General Information	
Preliminary title of the European Partnership	Forests and Forestry for a Sustainable Future
Short description of the partnership	The partnership aim is to promote healthy, biodiverse and resilient forests that are sustainably managed and able to provide a wide range of key-ecosystem services, including climate change mitigation through carbon removals and a continuing supply of materials and services for the development of the bioeconomy. It will be the main instrument of public organisations from EU countries and beyond to join forces in the forest-based sectors through concerted research and innovation together with a wide range of other stakeholders.
Services directly involved	Lead: DG AGRI Associated: DG RTD, DG ENV, DG GROW, DG CLIMA, DG JRC
Context and problem definition	<p>As stated in the European Green Deal, addressing global changes and limiting their impacts requires a transformative change of our European societies towards a resource-efficient and competitive economy, without net emissions of greenhouse gases by 2050 and with a decoupling of economic growth from resource use. Forests are at the intersection of global challenges such as climate change, biodiversity loss and land degradation. Forests in the EU are a major reservoir of carbon and sequester 10% of EU gross greenhouse gas emissions (Forest Europe 2020). They host the largest share of terrestrial biodiversity. They provide ecosystem services that are key for people and the planet. They regulate the climate, ensure soil and water quality and provide renewable materials like wood and non-wood forest products and services such as social recreational services (in particular urban and peri-urban forests), health and well-being.</p> <p>Challenges are set to increase with human population growth and a growing demand for natural resources and ecosystem services. As highlighted in the 2019 Commission Communication on stepping up EU action to protect and restore the world's forests, socio-economic resource dependencies mean that EU actions to address EU citizens' needs for food and natural resources also have an impact on forests globally. At the same time, societal demand for forest restoration, conservation and sustainable use is increasing. As regards specifically climate change, the final report of the High-Level Panel of the European Decarbonisation Pathways Initiative (EDPI) emphasised that a window of opportunity still exists to take in action and limit the impacts of global changes.</p> <p>Forests are part of the solution to face global challenges. They play an essential role in climate change mitigation, safeguarding biodiversity, protecting human living space, maintaining hydrological cycles, providing wood and non-wood forest products and recreational environments. In particular, forests are key to reach the EU target of carbon removals by natural sinks of 310 million tonnes of CO₂ equivalent set out in the revised LULUCF Regulation¹ (Land-Use, Land-Use Change and Forestry), climate neutrality by 2050, and to generate negative emissions thereafter. With the proposed Regulation on carbon removal certification (CRC)², forests and forest-based industries have the opportunity to strengthen carbon removals, including through carbon farming practices, improved sustainable forest management and an increased use of long-lived and other climate-smart wood products. Forest sector has a crucial role in ensuring forest sustainability for the transition of our societies towards a resource-efficient and green economy. The forest-based sector in Europe consists of a multitude of value chains, both commercial and non-commercial, representing over € 117 billion</p>

¹ https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6784

² https://climate.ec.europa.eu/eu-action/sustainable-carbon-cycles/carbon-removal-certification_en

	<p>manufacturing added value and creating 2.6 million jobs and it is vital for regions less developed and in transition. Yet, the potential total value created could be optimised by integrating forest ecosystem services into payment schemes, diversifying and developing value chains.</p> <p>To help the transformation of our society we must enable our forests to adapt to climate change. Thus, there is an urgent need for adaptive forest restoration and sustainable management approaches that strengthen the resilience of EU forests. Also, re- and afforestation and restoration of degraded forests are needed to increase absorption of CO₂. Current EU forestry practices dominated by single coniferous tree species are vulnerable in a changing climate when tens of millions m³ of wood are affected by bark beetles yearly, and even more by droughts. On the other hand, the EU Forest Strategy for 2030 sets a vision and concrete actions to improve the protection, restoration and resilience of the EU forest, increasing them in quality and quantity, and promoting a sustainable circular bioeconomy. These changes are a precondition for forests to be able to deliver on their socio-economic and environmental functions for future generations, and enable a flourishing forest-based bioeconomy for decades to come. But they are also to avoid escalating socio-economic costs from forest disasters caused by pests and diseases, protect people, land and houses from floods, storms, fires and landslides, and preserve the carbon stock and sink function and other ecosystem services provided by forests that are vital for human health and wellbeing, such as clean air, water regulation, and habitat for the variety of living species they host.</p> <p>An enabling prerequisite to make forests fully part of the solutions to tackle global challenges and transform our society is reliable and timely available information on forest ecosystems and resources, their condition and trends. Forests must be monitored over time to drive management practices towards enhanced forest resilience. Forest monitoring systems and precise information sources on forests are required to monitor forest attributes dynamics, detect disruptive events that may be the early warnings of tipping points in forest changes, and ensure targeted and effective measures to improve forest resilience and to track progress in forest contributions to the achievement of climate neutrality and other sustainability objectives. Combined with ground-based data, forest monitoring can benefit greatly from advances in digital tools and technological innovation (remote sensing, LiDAR, statistical inventories, crowdsourcing) but can also be a driver of this digital innovation.</p> <p>Addressing the challenges that we face regarding forests and seizing the sustainable opportunities that forests can offer requires us to consider forests holistically as a socio-ecological and economic system, where complementary actions can be implemented and strong synergies achieved, but where trade-offs between competing actions will also have to be balanced.</p> <p>European investment into forest research has been conducted through the challenge “Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy” of Horizon 2020 with a total budget of around € 155 million for 2014-2020. In Horizon Europe, forest related research and innovation activities are supported through the thematic cluster on “Food, Bioeconomy, Natural Resources, Agriculture and Environment”.</p>
<p>Objectives and expected impacts</p>	<p>The candidate Partnership will support the ambition of the new EU Forest Strategy for 2030 that recognises the central and multi-functional role of forests, and the contribution of foresters and the entire forest-based value chain for achieving by 2050 a sustainable and climate-neutral economy while ensuring that all of ecosystems are restored, resilient, and adequately protected. The European</p>

Partnership on forests will be the main research and innovation-oriented instrument to reach these objectives.

Addressing forest challenges by separate domains of action like biodiversity, climate change, or industry puts us at risk of opposing solutions rather than optimising synergies and trade-offs. We therefore need research and innovation approaches to **address multiple goals simultaneously**, which often requires **transdisciplinary approaches** to properly define relevant research questions. Innovative approaches and improved knowledge are needed to create a solid foundation for sound decision making and action to reach the most optimal trajectory for forests to contribute to a sustainable green transition.

The **expected impact** of the Partnership is **coordinated forest research and innovation at European level** to provide a shared and robust knowledge base to make this transition a success. The main objective of the Partnership is to promote sustainable European **forest ecosystem management** that is adapted to **future environmental conditions and risks**, have a strong weight in the **bioeconomy value chains**, and meet **societal expectations**.

Expected outcomes of the European Partnership on forests are the following:

- **Stronger consistency between social, environmental and economic dimensions of forests and forestry**, and improved knowledge of their interplay. Knowledge can facilitate the convergence of views between different stakeholders, thus responding to societal expectations while supporting the forest industry in a transition towards a greener and circular bioeconomy.
- **Better understanding of the pivotal importance of the time perspective** and of the accelerating changes in climatic conditions and weather extremes in the role that forests can play with respect to climate benefits and biodiversity objectives, emphasising the need for modelling approaches of various management strategies.
- **Improved guidelines on innovative and adaptive forestry regimes in European regions** to reach climate and biodiversity objectives, embracing the multifunctional role and the sustainable management of forests as well as the interplay between forestry regimes and genetic diversity and resilience to climate change (drought, fire, pests and diseases, etc.).
- Development of new knowledge, methods, and processes to **support major transitions (including increased carbon removals and the restoration of forest ecosystems) and innovations in the forest-based bioeconomy towards cascading use of forest products and higher added value**, supporting business development (creating employment and job opportunities) in rural areas and industrial development in crucial sectors such as forest-based industries (traditional and emerging branches), construction, transport and energy.
- **Improved, consistent, comprehensive and timely monitoring** of forest condition, biodiversity, resilience and productivity, related experiments to better anticipate future developments, provide early alert on disturbances (e.g. pest outbreaks and climate change driven impacts), and assess the impact of forestry practices on forest health and conservation.

	<ul style="list-style-type: none"> • Better understanding of the trends and bottlenecks in the emergence of new green forestry business models, including carbon farming, ecotourism and payments for environmental services.
<p>Necessity test: rationale for a European Partnership</p>	<p>The European Partnership is an objective of the EU Forest Strategy and will build a strong forest research and innovation community that interconnects people/entities and a wide spectrum of scientific disciplines to reinforce the work on the European priorities such as nature restoration, climate change mitigation and adaptation. Despite its growing importance, the forest R&I capacity is still underdeveloped in comparison to other fields (e.g., agriculture) and the scientific knowledge base needs to be significantly enhanced to overcome the challenges faced by forests and to unlock their full potential. An ambitious partnership would allow to speed up the scientific progress, underpin the implementation of relevant EU policies, increase efficiency (e.g., division of labour) and foster knowledge exchange in the whole forest domain.</p> <p>A European Partnership is required to ensure a holistic and balanced approach regarding the multiple uses and benefits of forests and forestry in all parts of Europe while considering changing climate, environmental and socio-economic conditions. Without such a holistic approach, there is a risk for forest questions and forest research to be scattered among different domains such as climate change, biodiversity, societal expectations, industrial development or economy. Each of these domains is important but even more important and crucial is the design of synergies (when forest actions are complementary) and the balance of trade-offs (when actions are competing) between these domains. Such a holistic approach is all the more important as the bottlenecks in forest questions today precisely lie at the interface between different domains (e.g. reinforcing logging and biomass production vs. reinforcing protection with respect to climate objectives in different timelines; bringing societal expectations and forest industry into the same line; etc.). The need for striking an optimal balance in a range of forest functions and related societal values is a primary reason for considering a European Partnership on forests.</p> <p>Another reason for a European Partnership is that forest research questions are inherently relevant at a much larger geographical scale than that of individual countries/Member States as ecological forest biomes (Mediterranean, temperate, boreal) span across Europe. In a context of a changing climate, it means that for the adaptation of forests to climate change, countries will depend on exchanges with neighbouring countries. For instance, the management of tree genetic resources and forest reproductive material, that are key for the adaptation to climate change (for assisted migration, etc.), require a European approach in the context of a changing climate. The management of risks related to forests (wildfires, pest outbreaks, etc.) also require both European and regional approaches, as does forest monitoring and nature positive actions, including connectivity. When it comes to global forest issues like imported deforestation, research on the role of Europe in this development is also needed. Similarly, joint research and coordination is needed in the invention of new and even more climate-beneficial wood-based materials and products and the penetration of products from renewable forest resources to other sectors (housing, packaging, pharmacy, textile industry, agroforestry, etc.). Therefore, a European Partnership on forests would allow European countries to get more benefits than the sum of countries' separate efforts would bring.</p> <p>Specific justifications of a European Partnership on forests are the following:</p> <ul style="list-style-type: none"> • Improved cross-coordination of the European R&I landscape. Research in forestry and the forest-based sector is mostly done by small (public and/or private) institutions which are not well equipped to perform large (Horizon

	<p>Europe) projects and therefore need smaller manageable projects (main reason for the success of the preceding forest-based ERA-NETs).</p> <ul style="list-style-type: none"> ● Improved coordination across different areas and sectors. Multifunctionality and social-ecological approaches and analyses (integrated with social sciences and humanities) of forests become more and more important with respect to climate mitigation and adaptation, resilience, and other broader societal aspects. Appropriate research and innovation activities require an EU rather than local or Member States approach. ● Stronger focus on the processes that lead to transformations toward sustainability in the forest-based and bioeconomy sector at EU level, which will also be key to the forest industry’s long-term competitiveness, in the EU and globally. ● Building of capacities, education and training, and a better connection of these with research are required to position Europe as a leader on the global scale. ● Mutualised benefits from the greater diversity of forest-related experiences and forest conditions at the European level than at the Member State level.
<p>Relevant for the following parts of Horizon Europe</p>	<p>Pillar II 'Global Challenges and European Industrial Competitiveness'³</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Cluster Health <input checked="" type="checkbox"/> Cluster Culture, creativity and inclusive society <input checked="" type="checkbox"/> Cluster Civil Security for Society <input checked="" type="checkbox"/> Cluster Digital, Industry and Space <input checked="" type="checkbox"/> Cluster Climate, Energy and Mobility <input checked="" type="checkbox"/> Cluster Food, Bioeconomy Natural Resources, Agriculture and Environment <input type="checkbox"/> Cross-cluster <input type="checkbox"/> Pillar III 'Innovative Europe'
<p>Currently identified links with other partnership candidates / Union programmes</p>	<p>Forests and forestry span across many sectors and synergies can be established with other partnerships. The following European Partnerships are complementary and could be linked to the proposed partnership: Agriculture of data; Biodiversa +; Accelerating farming systems transition: agroecology living labs and research infrastructures; Safe and sustainable food systems; Circular bio-based Europe; Water4all. The proposed partnership will be complementary to other relevant partnership candidates or EU programmes, and will provide a holistic approach that would contribute to the targets of the aforementioned partnerships.</p> <p>Partnership objectives are directly linked to other forest dedicated platforms and initiatives under the European Green Deal, including the EU Forest Strategy and its 3 billion tree initiatives, the Bioeconomy Strategy, the revised LULUCF Regulation and the proposed Regulation on Carbon Removals Certification, the Nature Restoration Law, forest monitoring and data collection supporting the Forest Information System for Europe (FISE) and New European Bauhaus initiative.</p> <p>There are also links with CAP Strategic Plans, COST, Erasmus+, EIPs (AGRI, Raw Materials), EIT Raw Materials and EIT Climate-KIC, PPPs (BIC/ BBI JU), ERA-NET Cofund ForestValue, AnaEE, ICOS, EEA, EU Observatory for deforestation, forest degradation and associated drivers, ENFIN, ICP Forest, Interreg, LIFE, EU</p>

³ The partnership will receive the EU budget contribution from Cluster 6.

	Missions 'A Soil Deal for Europe', 'Adaptation to Climate Change' and 'Climate-neutral and smart cities'
Does the proposed partnership build on currently active ones?	The proposed partnership builds on ERA-NET Cofund ForestValue (and former ERA-NETs WoodWisdom-Net, Foresterra, Sumforest) and on SCAR SWG Forest activities.
Expected type and composition of partners	The diversity of forestry challenges at local, regional, national, European and international level requires wide participation in the Partnership: (i) National and regional agencies, universities, research organisations and national forest inventories supporting research and innovation developments of forests and the forest-based sector; (ii) EC DGs in link with the sector, (iii) MS/AC ministries of more than 20 countries, FOREST EUROPE and BIOEAST; (iv) platforms such as the European Forest-Based Sector Technology Platform (FTP), the European Forest Institute (EFI), InnovaWood, EHIA (European Hardwoods Innovation Alliance), EEA, ENFIN (European National Forest Inventory Network), ERICs (European Research Infrastructure Consortium), NetworkNature; (v) collaboration with industry (esp. SMEs), regions and other economic actors (incl. forest owner associations); (vi) collaboration with biodiversity and conservation actors; (vii) collaboration with non-research organisations including NGOs that are producing knowledge on forests and society.
Contributions and commitments expected from partners	Both financial and in-kind contributions (well beyond ad-hoc ERA-NETs) are foreseen from EU MS (RDI funding agencies, sectoral agencies, regions, research organisations, industry; to be further detailed later by all foreseen partners). The engagement of partners with diverse competences, responsibilities and affiliations will mobilise the best expertise and enough funds to effectively drive R&D solutions to meet the set objectives. It is expected that the partnership will significantly and progressively increase the contributions in order to align them with the size of the challenges at stake.
Currently envisaged implementation mode(s).	<input type="checkbox"/> Co-programmed European Partnership <input checked="" type="checkbox"/> Co-funded European Partnership <input type="checkbox"/> Institutionalised European Partnership <input type="checkbox"/> Article 185 <input type="checkbox"/> Article 187 <input type="checkbox"/> EIT-KIC
Justification of the implementation mode	A co-funded European Partnership would allow MS to pool resources to joint activities with national funding bodies/ research organisations. It should provide the necessary longer-term flexibility to respond to all needed policy developments and their implementation to address the SDGs and to tackle climate change, while strengthening the circular (forest-based) bioeconomy. A strong and efficient cooperation is needed at least in the medium term, with continuity and simple functioning rules.
Proposed starting year	2025