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Navigating Sustainable Forest Futures: Balancing Ecosystem Services in the EU

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Forest ecosystems play a well established role in providing a multitude of ecosystem services. It is imperative to maintain the health of forests to ensure a continuous supply of these services. However, increasing pressures such as growing demand of wood products and forest overexploitation, climate change, land use change, etc. are compromising their resilience and services provision.

To address this challenge, various European and national policies are directed on either expanding natural and unmanaged forests (e.g. EU Biodiversity Strategy; European Climate Law) or improving forest management practices (e. EU Forest Strategy, EU Bioeconomy Strategy). In the former case, the goal is to contain or exclude direct and indirect human intervention and disturbances. In the latter case, while human presence and management are allowed, they must adhere to sustainable and respectful practices

The burden to provide a better balanced array of ecosystem services, ensuring the maintenance of forest resilience in the future, falls largely on the shoulders of forest owners and managers who will face opportunity costs and a deviation from their profit maximization objective.

Nevertheless, achieving policy targets will be made more efficient and realistic with an active involvement of the entire community in a collective endeavour. Individuals may be encouraged and required to contribute to mitigating private economic effort by acknowledging the economic value of market and non market ecosystem services other than provisioning and facilitating payments for these services through a mechanism commonly referred as payments for ecosystem services (PES).

Employing a Choice Experiment methodology, we contribute to the existing knowledge regarding the economic value assigned to forest ecosystem services by assessing the willingness to pay of European citizens under future scenarios, which differ in policy ambition and forest management. Interestingly, as we explore alternative options, also based on outcomes of a project stakeholder workshop, we draw attention to emerging paradoxes within EU strategies. For instance, while provisioning services are generally perceived as undermining regulation services, the substitution of fossil fuels with wood biomass may indeed help reducing greenhouse gases emissions and supporting EU climate mitigation targets. Moreover, unlike many studies that treat cultural services as an undistinguished bundle, we highlight potential conflicts arising from the increase in recreational opportunities and facilities, which may contrast with the desire to enjoy a more

natural forest environment and wild biodiversity.

This research is conducted within the project ForestNavigator, involving multidisciplinary scientists dedicated to shape the future EU forests. The result of the economic assessment will be used to enhance the models employed within the project to help support both private and public actors in making well informed decisions on forests management and the preservation of their ecosystem services.