

# BOOK OF ABSTRACTS

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## Efficient utilization of waste wood in a Circular Bioeconomy: Potentials and barriers

T2.21 Pathways towards sustainable and circular forest-based bioeconomies: Advances in research to address challenges and realize opportunities

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**Abstract:** This abstract focuses on circularity in forest-based bioeconomy and its contribution to achieving sustainability by integrating the economy, environment, and social dimensions. The circular bioeconomy concept is augmenting the academic and political interest since it aligns with the eleven Sustainable Development Goals of the UN 2030 Agenda, where it can contribute to a broader range beyond biomass production. The research comprises a comprehensive literature review on wood waste as a biomass affiliated with a forest-based bioeconomy, explicitly focusing on Germany. The evaluation of the wood waste position in the forest-based bioeconomy examines the integration of the frameworks for policies, initiatives, and influential projects and the most effectively used practices in German territories.

The outcome presents several recognitions of the forest-based bioeconomy benefits beyond the biomass potential. It stimulates research innovation, development, and job opportunities in the economic dimension. Advancing environmentally fosters ecosystem services and improves biodiversity conservation through sustainable forest management. In terms of the social dimension, it empowers the communities with public involvement to feel included and to bring awareness, knowledge, and benefits to society.

This research marks the value of the circular approach in the bioeconomy with a particular emphasis on the Forest sector, the importance of moving beyond the wood biomass perspectives, and the appreciation of the multi-dimensional benefits of forest-based bioeconomy. By adopting circularity in the forest sector, Germany and Europe, in general, can encourage forest-based resource efficiency to reduce environmental impacts and boost economic growth. To unlock the circular economy potential within the bioeconomy, it is crucial to embrace the cooperation of all the stakeholders throughout the whole value chain, involving the policymakers, the research institutions, and the industries. Embracing the cooperation of all these stakeholders throughout the whole value chain not only creates a path for a prosperous future but also emphasizes the significance of a holistic and circular path to a forest-based bioeconomy.