Project description

„ISAR – Innovation network for the material use of mature timber at regional level"

The transition from a fossil-based economy to an environmentally sustainable one suggests an increased use of wood as a reliable renewable resource. However, for efficient practice and long-term carbon sequestration it is essential to use wood in a circular way. In 2018, only 20 percent of the 1.59 million tons of Bavarian mature timber – with the majority of which falls into categories A I (not contaminated) and A II (only slightly contaminated) – was used for material purposes, while 80 percent was used for energy production. There is a similar gap between material and energy use of mature timber in Germany in general. In this respect, it is crucial to work towards a life-cycle oriented paradigm shift in the use of mature timber in order to exploit the substitution and carbon storage potentials more comprehensively. In order to create cascading value chains, life-cycle oriented innovations ranging from logistics and processing concepts to material utilization paths for mature timber must be developed in cooperation with key actors.

Therefore, the aim of the project is to develop an innovative concept for the use of mature timber in an open-ended innovation approach and to validate it in real laboratories in Bavaria. The results will lead to a roadmap of transformation, showing optimization potentials and concrete ways to implement the concept in practice. It will also help to transfer the opportunities to other regions.

In addition to modelling the future supply of matured timber wood and optimizing the matured timber wood value chain, the project aims to:

(1) Conditions for dimensionally stable use of mature timber

(2) Use of mature timber in bio-refineries

(3) Use of mature timber as a substrate for fungal mycelium-based materials

(4) Development of circular economy business models

(5) Environmental assessment of innovation paths

(6) Consumer acceptance of innovation paths

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Besides the University of Applied Sciences Weihenstephan-Triesdorf, the project partners are Cluster-Initiative Forst und Holz in Bayern gGmbH (Project coordinator), Technical University of Munich, Technical University of Rosenheim, Bavarian State Institute for Forestry, Franz Obermeier GmbH and Landpack GmbH. Aditionally, Pfleiderer Deutschland GmbH, Durmin Entsorgung und Logistik GmbH, Siempelkamp Maschinen- und Anlagenbau and UPM Biochemicals GmbH are acting as associated partners. Furthermore, the knowledge transfer partners in the project are Chemiecluster Bayern GmbH, Cluster neue Werkstoffe and Umweltcluster Bayern.