



Basic Information

- **Project acronym:** KRUG-wood
- **Project leader at the institution:** Assoc. Prof. Ivana Perić
- **Project duration:** 36 months
- **Implementation period at the institution:** January 2, 2025 – January 1, 2028
- **Project code:** IP.1.1.03.0059
- **Funding:** Ministry of Regional Development and European Union Funds of the Republic of Croatia – competitive project funding
- **Institution:** University of Zagreb, Faculty of Forestry and Wood Technology (FŠDT)
- **Institutional role:** partner
- **Funding amount (FŠDT):** EUR 101,023.25

About the Project

The **KRUG-wood** project is focused on developing an integrated model of a circular life-cycle approach for wood products, based on the concept of extended producer responsibility (EPR) and active consumer involvement.

Although the wood industry is based on renewable raw materials, it faces challenges such as inefficient product use, short product lifespans, and limited responsibility within the value chain.

The aim of the project is to investigate the relationships between producers, consumers, and institutions within the context of the circular economy and to develop an innovative model for managing wood products throughout all life-cycle stages—from design and use to recycling and disposal.

Through four work packages, the project includes analysis of sectoral policies and legislation, assessment of producers' attitudes and capacities for implementing EPR, environmental impact analysis using Life Cycle Assessment (LCA), and research on consumer knowledge, habits, and behavior. Based on the results, a simulation model of the circular life cycle of wood products will be developed using AnyLogic, supported by 3D scanning and digital databases.

Special emphasis is placed on the dissemination of results, knowledge transfer into practice, and raising awareness among all stakeholders. The project contributes to the implementation of circular economy goals, sustainable transition, and green policies in the wood sector.

Project Objectives

The main objective is to investigate the relationships and dynamics of cooperation between producers, consumers, and institutions in the context of the circular economy in the wood sector, with the aim of developing an integrated model of responsibility and sustainable management of wood products.

Specific objectives:

- to explore opportunities for improving wood product management within the circular economy through the analysis of policies, environmental impacts, feasibility of EPR implementation, and consumer behavior and awareness
- to propose a model linking the circular economy concept with the extended responsibility of producers, consumers, and other relevant stakeholders
- to enhance scientific excellence and knowledge transfer in the field of the circular economy through research dissemination and stronger cooperation with the wood industry sector

Project Team

- Assoc. Prof. Ivana Perić – project leader at the institution
- Assoc. Prof. Andreja Pirc Barčič – researcher
- Prof. Darko Motik – researcher
- Assoc. Prof. Kristina Klarić – researcher
- Prof. Denis Jelačić – researcher
- Assoc. Prof. Krešimir Greger – researcher
- Karla Vukman, MEng – researcher

External Collaborators

- Assist. Prof. Petra Grošelj, Biotechnical Faculty, University of Ljubljana
- Prof. Manja Kitek Kuzman, Biotechnical Faculty, University of Ljubljana

Scientific Activities

The project includes:

- analysis of the legislative and institutional framework of the circular economy and EPR in the wood sector
- empirical research involving producers, traders, experts, and consumers
- environmental impact assessment of selected wood products using LCA
- development of a simulation model for circular wood product management
- publication of scientific papers and presentations at international conferences
- collaboration with international partners and industry stakeholders
- dissemination of results through workshops, reports, and professional activities

Publications and Links

- **CroRIS project:** <https://www.croris.hr/projekti/projekt/17634>

Keywords

wood technology; circular economy; extended producer responsibility (EPR); cascading use of wood; sustainability