

Stakeholder-oriented article no 1



Use and Reuse of Wood buildings and components

Research question:

How should we build today to be able to circulate tomorrow?"

To answer this question, we need to know how we should design timber buildings, and wood-based construction products, from the perspective of reuse and recoverability. Crucially, to better understand how design and construction impact on material reuse and recirculation we need to know how choices made in the past affect current practice in renovation and demolition. This will inform us about what problems are likely with current methods of building. We look at the potential for reuse of current reclaimed wood, and other timber not currently entering the circular economy, in these new constructions.

The objectives of the project are to:

- develop a **method for ensuring future possibility of circulation of timber products** with true consideration of whole life-cycle, and practical industry issues at design, construction and deconstruction phases.
- plan primary design to **facilitate deconstruction rather than demolition**, and to pay attention to the use of chemical treatments, adhesives and other synthetic materials - including to decide whether their use technically is necessary and avoid over-specification.
- **optimize the primary design to enhance resource efficiency** as well as reduce environmental impacts along the life cycle (build and deconstruction).
- **allow grading for quality of recovered wood**, and similarly variable new wood from more diverse sources, in a way that is compatible and equivalent to grading of new timber from the main commercial species (including the basis in European standardization).
- **identify potential new construction products using recovered timber**.
- examine the business, economic, and environmental factors over the life-cycle to inform what is to be optimized, encouraged and avoided in design (to be described by a "rebuilding factor").
- **inform current engineers, architects and wood-based construction product manufacturers** through professional development, industry bodies, codes and standards.

Project Title:

Innovative Design For the Future - Use and Reuse of Wood (Building) Components- InFuTureWood

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