Strategies for Circular, Prefab Buildings from Waste Wood

Last Modified on 29/03/2019 12:30 pm CET

Authors: A. Klin, E. Roswag-Klinge, L. Radeljic and M. Lehmann

Date of publish: January 2019

Why did we conduct this research?

The paper explains how to maximize timber elements and materials from existing buildings for the reuse or the recycling for new construction, aiming to bring waste wood back into the building cycle.

Key findings:

- Material efficient building deconstruction involves the planning, designing and implementation stage.
- Building stock is not designed for deconstruction, which makes selective dismantling much more challenging. Design concepts for new constructions should therefore follow the concept of circular construction and allow for easy and speedy dismantling to increase the rate of building elements to be reused in future times.
- The use of standardized cross sections can be helpful to avoid storage costs and increase the market acceptance for salvaged timber.
- New material and construction concepts must be developed to allow the reuse and adaptation of buildings. In addition, today's planning process of new timber structures needs to take possible disassembly and reuse into account.

Reference:

Klinge, A., Roswag-Klinge, E., Radeljic, L., & Lehmann, M. (2019, January). Strategies for circular, prefab buildings from waste wood. In *IOP Conference Series: Earth and Environmental Science* (Vol. 225, No. 1, p. 012052). IOP Publishing.