

# **Integrated LCA of wood building products on a regional scale: conceptual and methodological considerations.**

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## **Abstract**

Performing a LCA study to evaluate the environmental profile of the wood building products sector in an integrated way requires a well-designed conceptual framework. This framework should consider the specific features characterising this particular part of the primary economy. Large quantities of co-products as well as multi-functional products are generated within the closely intertwined companies.

These products, combined in several building components, have typically long use-phases and multiple reuse or recycling loops. The end-of-life scenario is particular as well, focusing on green energy provision. Methodological considerations arise from these specific features concerning allocation procedures, temporal considerations of the different life spans or inherent qualities of wood building products linked to environmental performances (e.g. energy performance of insulating wooden boards or chips). Moreover, as this study considers an approach on a regional level the interchangeability of wood resources should be considered within the sector approach.

For the case study of the Walloon Region, only wood building products that undergo at least a product transformation stage (before application in a building component) within the region are considered. Aggregated production chains have been described for sawn timber, particle and fiber boards, floorings, laminated components, window frames and insulation materials.

Through participation of significant number of industrial partners, primary data will be collected to support the outcome of the LCA study. The available opinions and hypotheses found in literature to approach this multi-output constellation are then discussed in light of the specific situation of the several industrial segments.

The objective of this study is to address an adapted concept for the Walloon Region incorporating new insights and hypotheses to the available literature as well as stating methodological bottlenecks. The development of the LCA concept will be presented and the first implementation steps will be discussed with regard to practical experience from primary data collection.