

Life Cycle Thinking Frameworks applied to Engineered Wood Products: Identifying a need for S-LCA



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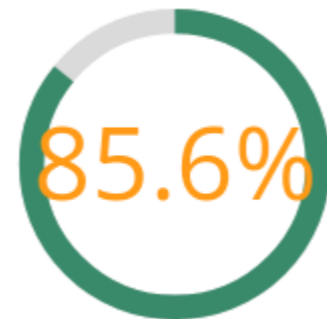


FAST FACTS

RESEARCH BACKGROUND



Global GDP



Full-time Employees



- Reduce environmental degradation
- Generate a profit
- Enhance users' health conditions & comfort levels
- Utilise renewable materials

ENGINEERED WOOD PRODUCTS



Glue Laminated Timber
Glulam



Laminated Veneer Lumber
LVL



Cross Laminated Timber
CLT

"What level of consideration has been given to the social pillar in life cycle assessments of EWP's?"

RQ 1

What type of EWP's have been evaluated?

RQ 2

What are the primary Life Cycle Frameworks applied to EWP's published up until Feb 2023?

RQ 3

What are the primary system boundaries evaluated?

RQ 4

What are the positive impacts driving the increased use of EWP's?

74
examined
case studies

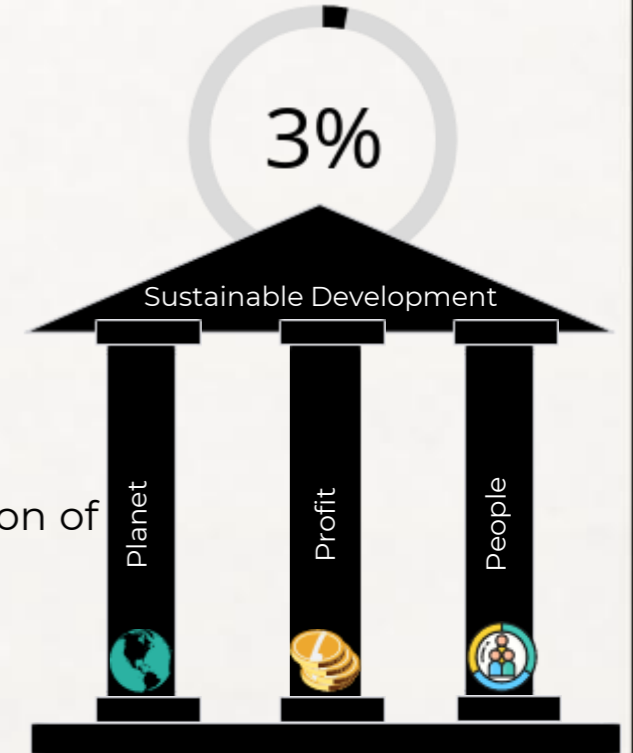
PRISMA Literature Review



GWP
Energy consumption
Carbon emissions
Human toxicity potential



Environmental and cost evaluation of
EWP's compared to



Social Life Cycle Assessment

S-LCA



WORKER

- Freedom of association
- Fair salary
- Working hours
- Health and safety



LOCAL COMMUNITY

- Local employment
- Community Engagement
- Access to material resources
- Access to immaterial resources

Social themes: Soft

Less tangible

- Demographic change, age, migration & mobility
- Social identity
- Empowerment
- Health & Safety
- Well-being, happiness, quality of life

(Petrova and Marinova 2015)



CHILDREN



VALUE
CHAIN
ACTORS



SOCIETY



CONSUMER

Evaluating the positive and negative social sustainability impacts of CLT across the Cradle-to-on-site Gate phase.



**m2 CLT
functional unit**

**online & in person
interviews**

Multi-level Data

S-LCA PHASE 3



- Type 1 Impact Assessment = **Performance Reference Scale Assessment**
- **Score** the participating organisations **level** of **social sustainability compliance**
- **Thematic analysis** of the interviewee responses
- Determination of priority social impact categories

Scale Level	Description
+2	Ideal performance - best in class
+1	Beyond compliance
0	Compliance with local and international legislation and/or basic expectations
	Slightly below compliance level
-2	Starkly below compliance level



A photograph of a person's hands using a yellow measuring tape to measure a long wooden plank resting on a workbench. The image is overlaid with a semi-transparent green filter. In the top-left corner, there is a large orange abstract shape and a smaller orange circle. In the bottom-right corner, there is a large, semi-transparent white circle. The text "Thank you for listening" is centered in white.

Thank you
for listening