



# Life Cycle Assessment of Nature-based Solutions:

The environmental benefits of integrating wood products and trees to the design of buildings

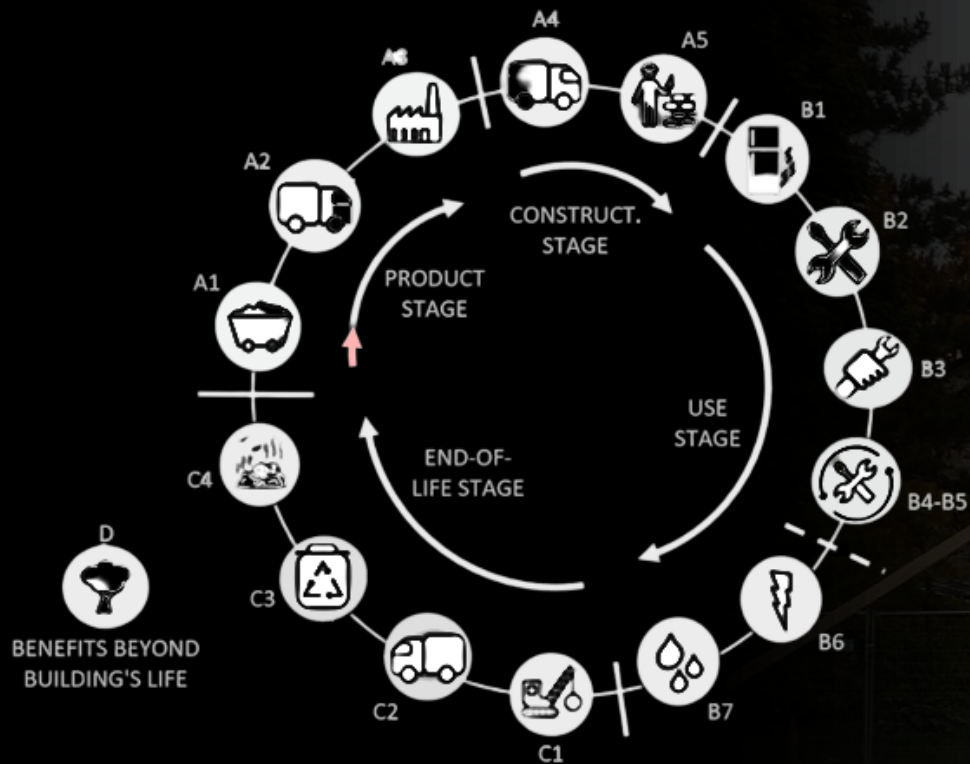
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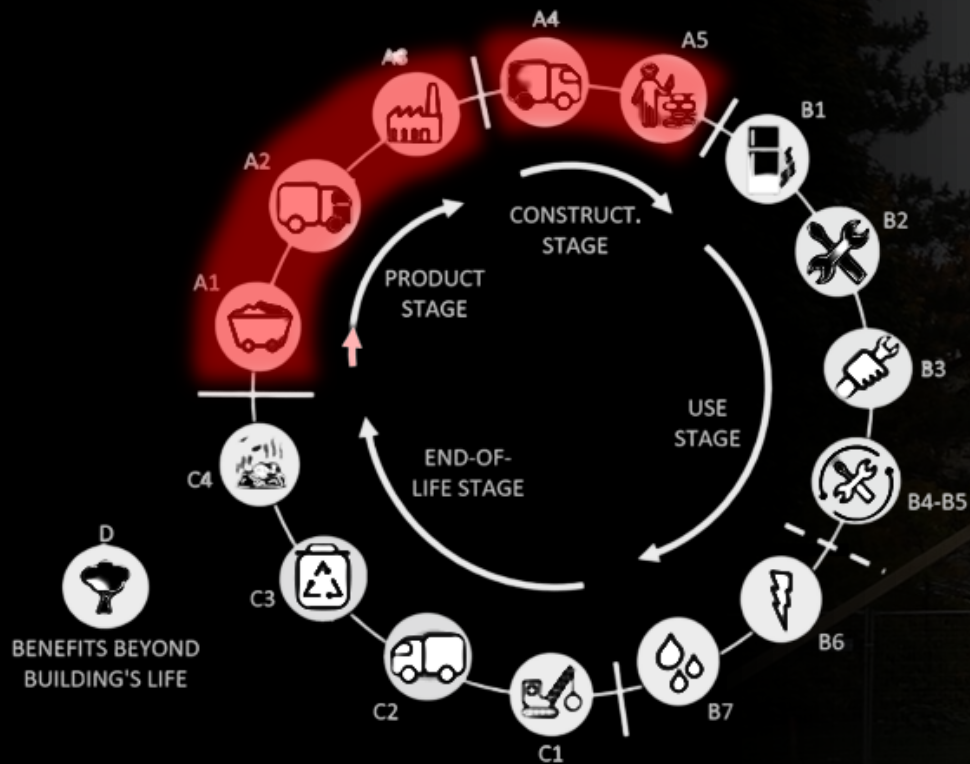


# Life Cycle Assessment



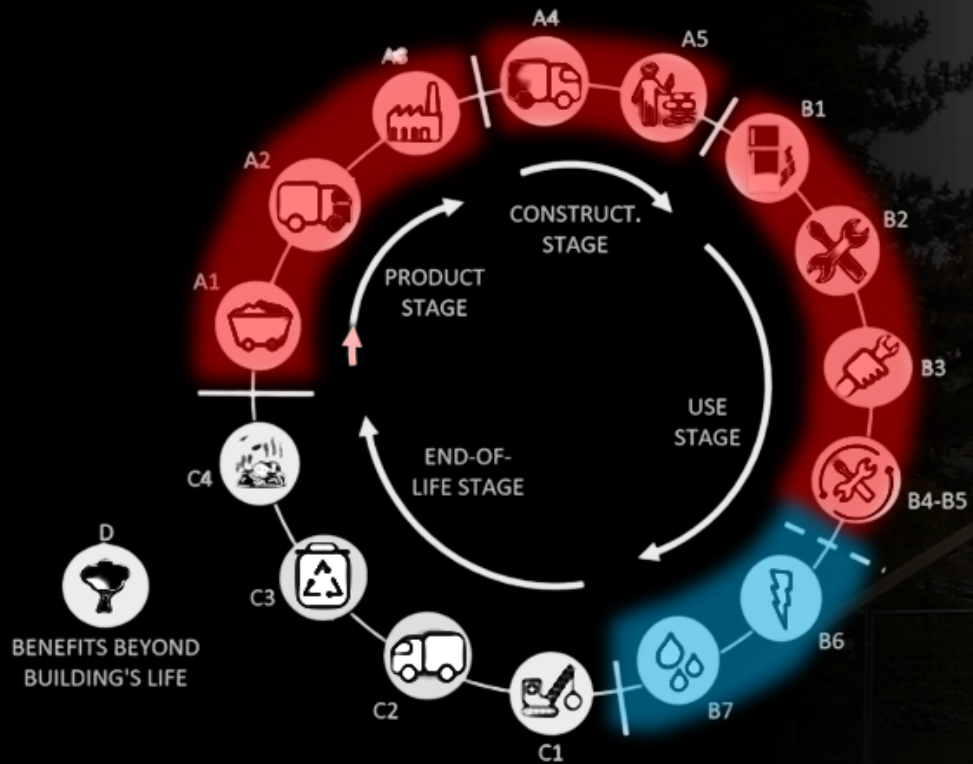


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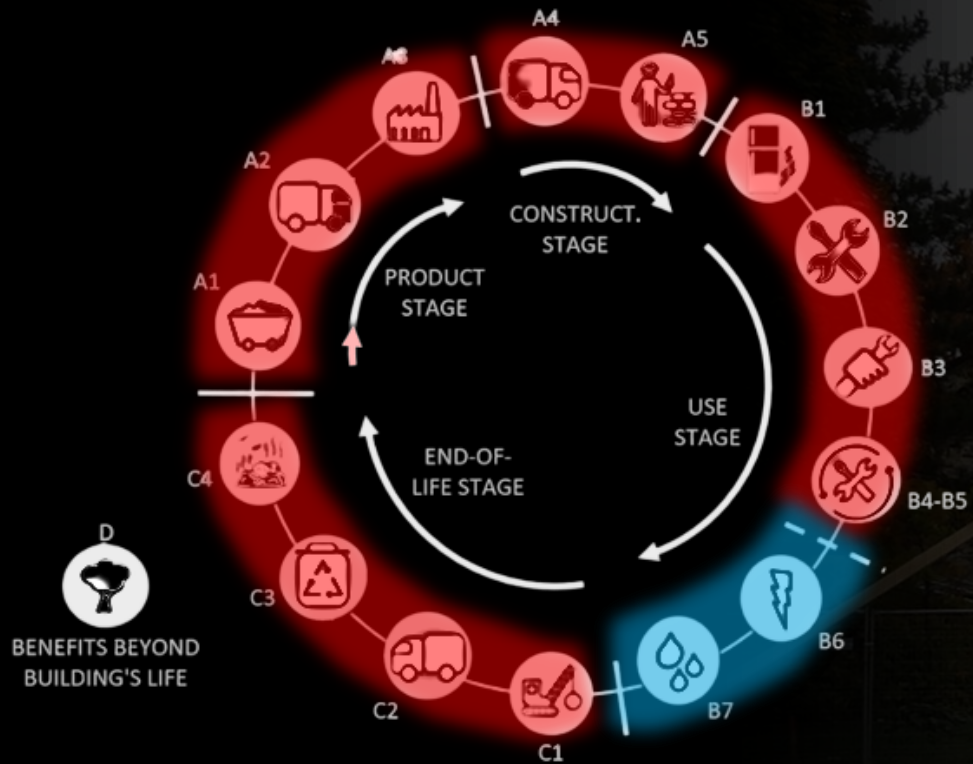


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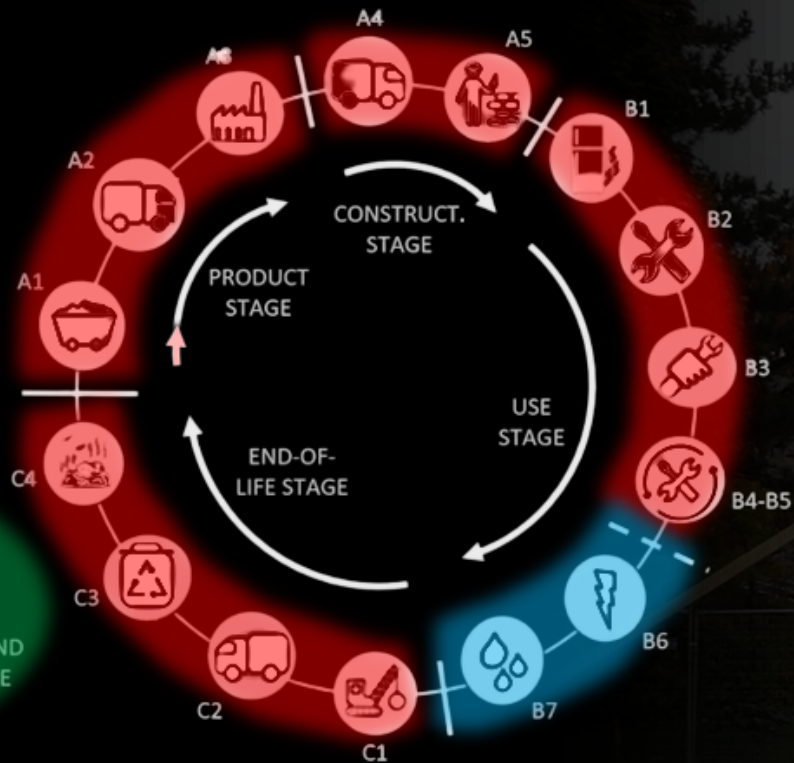


# Life Cycle Assessment





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# Wood products

## Benefits from end-of-life treatment:

- Wood Incineration (with energy recovery)
- Wood Landfilling (biogenic carbon storage)
- Wood Reusing (avoided emissions new manufacturing)

## Benefits from biogenic carbon content

- How to estimate based on product mass
- When to include the benefit in LCA results?



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# Carbon sequestration potential from trees



Article

## Feasibility of Planting Trees around Buildings as a Nature-Based Solution of Carbon Sequestration—An LCA Approach Using Two Case Studies

Felipe Grossi , Hua Ge \*, Radu Zmeureanu  and Fuad Baba 



# Research contributions and future work:

- **Two papers** published in Special issue of Buildings-MDPI
- Compare our LCA framework with the new **ASHRAE Standard 240P** (public review)
- Investigate existent markets for **circular economy** in Montreal





Thank you.