Worksheet for Structural WBLCA of Mass Timber Buildings

This fillable PDF accompanies the WoodWorks paper, Considerations and Worksheet for Structural WBLCA of Mass Timber Buildings, which steps through common decisions building designers need to make in each phase of a life cycle assessment (LCA). The paper can be downloaded at woodworks.org.

For questions or assistance with the LCA process, please contact WoodWorks at help@woodworks.org.

TABLE 1:

Goal Components	Notes
Intended application (What)	
Reason for study (Why)	
Intended audience (Who)	
Will results be made public?	
Will results be used to make comparative assertations?	

TABLE 2:

Scope Considerations **Will the LCA include:**	**Yes**	**No**	**Notes**
The entire structural system (gravity, lateral, substructure and foundations)? If no, describe the system(s) to be studied.	☐	☐	
Additional materials needed to meet vibration or other serviceability requirements?	☐	☐	
Nonstructural building enclosures required for moisture protection and thermal performance (exterior walls and roofs)?	☐	☐	
Materials and assemblies needed to meet code-required fire performance?	☐	☐	
Materials and assemblies needed to meet code-required or project-specific acoustical performance?	☐	☐	
Ancillary structural items such as stair framing, elevator overruns, rooftop penthouses, etc.?	☐	☐	
Aesthetic ceiling and/or wall finishes?	☐	☐	
Nonstructural partition walls?	☐	☐	
Connections? If yes, describe the level of detail.	☐	☐	
MEPF? *(This is not common.)*	☐	☐	
Nonstructural elements not indicated above? *(This is not common.)*	☐	☐	

TABLE 3:

Developing Functionally Equivalent Designs for a Comparative WBLCA	Mass Timber	Alternative 1	Alternative 2
Describe the alternative structural system(s) that will be compared to mass timber.			
Project location			
Applicable building code(s)			
Building occupancy/use			
Expected design life			
Total building area			
Total number of stories			
Column grid spacing			
Floor-to-ceiling clear height			
Overall building height			
Construction type			
Lateral system(s)			
Foundation system(s) and basement/substructure, if applicable			
Other differences between the design alternatives			

TABLE 4:

Additional Scope Considerations	Notes
Which life cycle stages will be included?	A1 ☐ A2 ☐ A3 ☐ A4 ☐ A5 ☐ B1 ☐ B2 ☐ B3 ☐ B4 ☐ B5 ☐ (B6) ☐ (B7) ☐ C1 ☐ C2 ☐ C3 ☐ C4 ☐ (D) ☐
Which environmental impact categories will be assessed?	☐ Global Warming Potential ☐ Ozone Depletion Potential ☐ Acidification Potential ☐ Smog Formation Potential ☐ Eutrophication Potential ☐ Fossil Fuel Depletion/Nonrenewable Energy Use ☐ Other: _____
Other scope items not already addressed	

TABLE 5:

Methodology and Data	Notes
Which LCA tool is being used?	
Is biogenic carbon reported separately or as part of the GWP?	
Additional explanation of biogenic carbon reporting, as necessary	
Explanation of other methodological choices defined by the tool, as necessary	
Explanation of data gaps or assumptions	

TABLE 6:

Interpretation and Conclusions	Notes
Identify any gaps, inconsistencies, errors or limitations not previously noted.	
Results of sensitivity check, if applicable	
Reporting of results	
Conclusions and recommendations	
Third-party review, if required	