

Erwin M. Schau*, Eva Prelovšek Niemelä, Urban Kavka, Andreja Kutnar

Abstract

Climate change and other environmental problems from the production of raw materials, construction and buildings' end of life are serious concerns that need to be solved urgently. Life cycle assessment (LCA) and the EU-recommended Environmental Footprint (EF) are well-known and accepted tools to measure a comprehensive set of environmental impacts throughout a product's life cycle. In this contribution, we assess the InnoRenew CoE building being constructed in Izola, Slovenia. This is the largest mass timber building in the Republic of Slovenia and will host offices and laboratories for up to 90 researchers on a total area of 8200 m². We show the carbon and environmental footprints and the hot spots cradle-to-gate of this building.

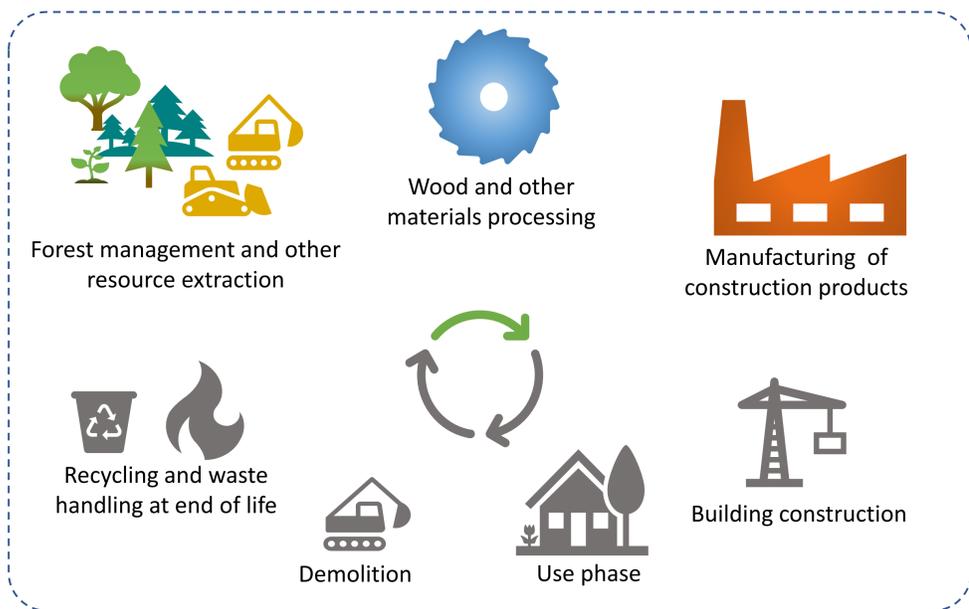


Figure 1: System boundary for the LCA. Transport is also included but not shown in the figure. Only the coloured life cycle stages are reported in this first iteration.

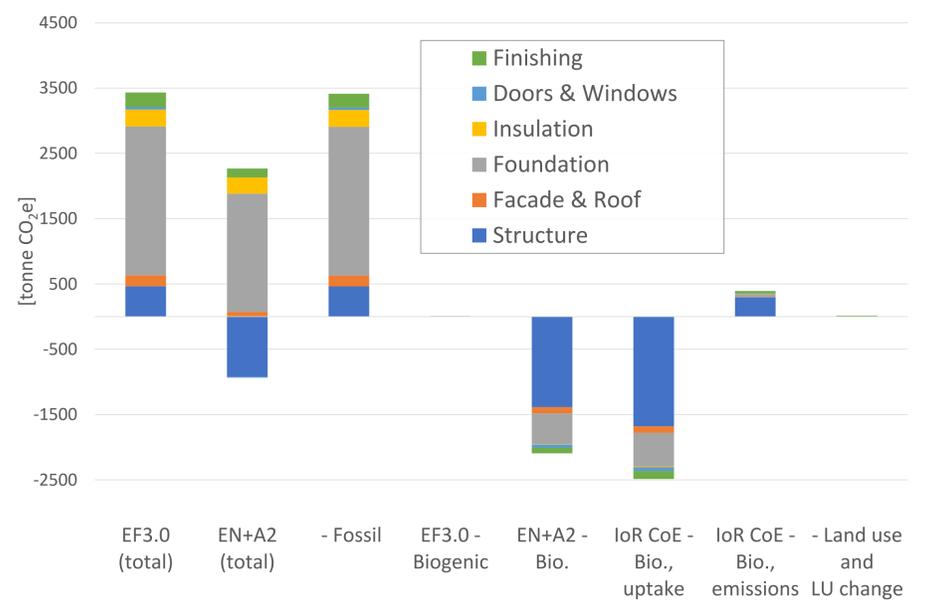


Figure 2: Carbon footprint (climate change) cradle-to-gate measured with different methods: EF3.0 = the EU environmental footprint method v 3.0 and EN 15804+A2:2019.

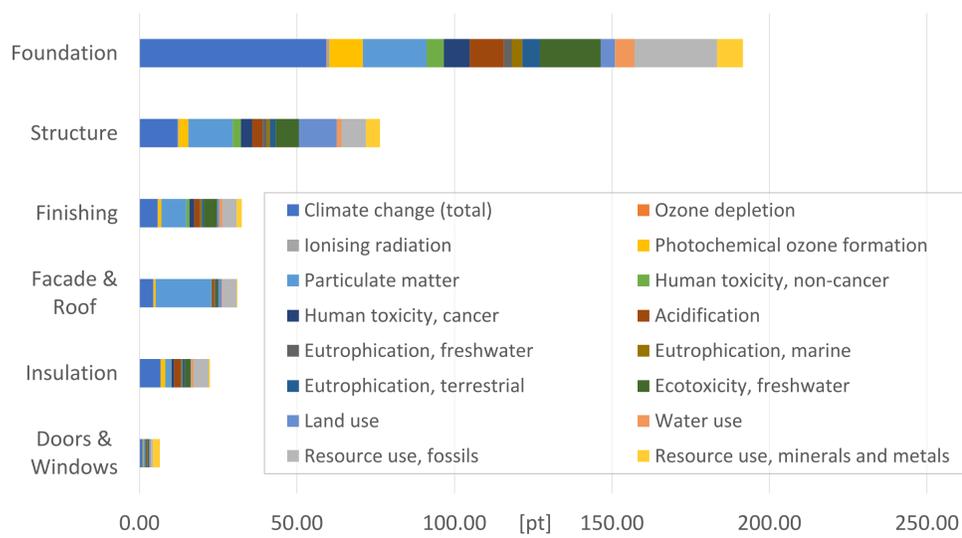


Figure 3: Normalised and weighted EF 3.0 indicators showing that the foundation (with concrete and reinforcing steel) is a hot spot.



Figure 4: How many oak trees do you think InnoRenew CoE needs to plant to offset the 1) carbon footprint and 2) environmental footprint of the new Izola building?

Question to you

Please send an email with your answers for the question in Figure 4 to the corresponding author. Thank you very much for your interest and your answer(s).

* Corresponding author: erwin.schau@innorenew.eu