

Live Cycle Assessment “from cradle to cradle” of building assemblies – application to flat roofs

Summary

The main objectives were the development of national LCA studies regarding the production of construction materials used in flat roofs using data from local Portuguese producers; the application of an innovative methodology for the selection of coherent LCA data sets of products and construction materials that can be used in the national context as generic data sets.

That methodology was used to validate de LCA results of this study comparatively to others from previous studies; the application of an innovative method for the simultaneous assessment of the environmental, economic and energetic performance of flat roofs in buildings, taking in account LCA data sets of their components that can help reducing abiotic depletion of elements and fossil fuels used in the construction of buildings; and the constructions of an LCA database suitable to flat roofs of buildings in Portugal, which was the first to be built in the country.

Keywords

Building assemblies, building materials, construction materials, cradle to cradle, energy performance, environmental impact categories, flat roofs, life cycle assessments (LCA), LCA databases, whole-life cost (WLC).



Flat roofs in current buildings (Parque das Nações, Lisbon).



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Period

2014-2019

Funding

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