

Policy Brief

Recommendations for building labelling schemes

Building certification schemes

Labelling schemes for sustainable buildings such as DGNB¹, HQE², BREAM³ or VERDE⁴ have received tremendous attention over recent years, and are seen as a major driver for innovation and implementation of sustainable thinking in the European construction sector. In general, all those schemes take into account life cycle information, and in some cases, the Life Cycle Assessment (LCA) methodology is used either for assessing the whole building or for requiring environmental quantitative information on the used products in the form of Environmental Product Declarations (EPDs).

Some of these labelling schemes for buildings like DGNB, HQE or BREEAM use individual sets of calculation rules for LCA in the construction sector and may refer to EN 15978. Therefore, the metrics and standards currently used can be interpreted and implemented in many different ways leading to inconsistencies and lack of comparability.

This situation forms the basis for the EU research project “EeBGuide” (Operational Guidance for Life Cycle Assessment studies of the Energy Efficient Buildings Initiative), coordinated by the Fraunhofer Institute for Building Physics IBP and including leading LCA experts from PE INTERNATIONAL, CSTB, ESCI, BRE and Prof Ch Sjöström Consultancy.

The EeBGuide project

To improve the reliability of LCA studies and comparability of results, the team of LCA experts collaborated to produce a common methodology and set of rules in

the EeBGuide project, co-financed by the European Commission’s Seventh Framework Programme for Research and Technological Development (FP7) and part of the Energy Efficient Building European Initiative. Based on existing standards and guidelines and the International Reference Life Cycle Data System (ILCD) Handbook, the project partners have developed and applied on several case studies a common methodology for conducting LCA studies of buildings and construction products.

EeBGuide enables private and public LCA practitioners to quantify environmental impacts in a consistent manner. The guidance document can be applied to assess the life cycle of whole buildings (both existing and new ones), building products or technological solutions still to be developed within the E2B Initiative. It allows practitioners to perform LCAs in a clear, pre-defined and well-structured way by delivering a scientifically sound, practically applicable, and quality assured guidance.

The EeBGuide guidance document can now be used by the primary audience (LCA practitioners) and the secondary audience (building LCA tool developers and certification schemes), being one of the outcomes of the EeBGuide project to provide recommendations for building certification schemes.

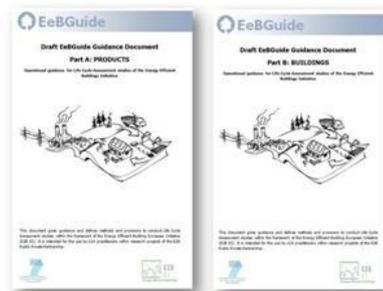


Figure 1: The EeBGuide guidance document is formed by part A, focussed on product LCA, and Part B focused on building LCA, being the latter of special interest for the administrators of building labelling schemes. © EeBGuide

¹ <http://www.dgnb.de>

² <http://assohqe.org/hqe/>

³ <http://www.breeam.org>

⁴ <http://www.gbce.es/pagina/certificacion-verde>

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Impact on building certification schemes

For the consideration of aspects related to building labelling, relevant stakeholders have been invited to participate in the public consultation of the EeBGuide documentation. Special attention has therefore been paid to the expected impacts of the EeBGuide on labelling schemes, and to the potential resulting benefits and opportunities for stakeholders.

EeBGuide and the additional reporting templates for buildings LCA studies may quite likely form a basis for integrating LCA into labelling schemes. In this context, building LCA depends strongly on calculation methods that are suitably applicable to such studies, and on reliable data for individual construction products. Such data may be provided by the EPDs of manufacturer-specific products, or by generic LCA data for average construction products. EeBGuide provide common rules, specifications and guidance for setting up generic databases and for easing the use of LCA in the building sector.

Recommendations for building certification schemes

- Relate labeling criteria to environmental quantitative information based on LCA studies.
- Take into account the global environmental performance of the building along its life cycle, applying the modularity principle and calculation rules stated in EN 15804 and EN 15978 standards.
- Adapt the LCA study type according to the development stage of the building: screening LCA for the first concept ideas, simplified LCA during the design process and complete LCA for the final assessment.

- EeBGuide templates may be used for reporting and reviewing LCA studies of buildings (screening, simplified or complete).
- Foster the use of EPDs complying with EN 15804 as a way to obtain reliable quantitative information about the environmental impacts of building products and systems.

Project partners

- Fraunhofer-Institut für Bauphysik IBP
- PE INTERNATIONAL AG
- Centre Scientifique et Technique du Bâtiment (CSTB)
- UNESCO-Chair in Life Cycle and Climate Change of Escola Superior de Comerç Internacional (ESCI)
- Building Research Establishment (BRE)
- Prof Ch Sjöström Consultancy

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For more information

Additional information is available on the website of the project: www.eebguide.eu