



The Life Cycle Assessment Tool for Buildings within the Assessment System for Sustainable Building (BNB)

eLCA is an easy-to-use life cycle assessment tool for buildings and has been developed to standardise LCAs. It supports users in complying with these requirements across the entire planning process.

eLCA's main feature is an editor for creating building elements. It allows for transparent modelling of building elements. The building element, including its materials, is shown on a dynamic graphic, which enables a visual check of the input values. In addition, an integrated building elements library with typical sample designs further facilitates the user's work with eLCA.

Building Materials

eLCA provides all construction material data sets in a pre-configured manner. This defines a reasonable and uniform approach to the life cycle assessment for buildings and the evaluation of global environmental indicators in the BNB system.

Functional scope of eLCA

- transparent calculation
- dynamic screen graphic
- assessment of new buildings, existing building stock, transport expenditure
- BNB-compliant evaluation
- graphical evaluation
- import/export interfaces



Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

330 Exterior walls

BUILDING - BUILDING CONSTRUCTIONS

Facade_East [1835] ELEMENTS

General

Name *

Facade_East

OZ

Description

Installed capacity *

400

Reference value *

m²

Attributes

U-value

R-value

BNB 4.1.4

Dismantling

Separation

Utilisation

1

2

3

4

5

6

7

8

368 mm

① Interior paint dispersion paint rub-resistant

② Gypsum plaster (plaster), 20.00 mm

③ Brick section, 240.00 mm

④ Reinforcement (synthetic resin filler), 2.00 mm

⑤ Insulation, 100.00 mm

⑥ Reinforcement (synthetic resin filler), 4.00 mm

⑦ Synthetic resin plaster - VDL, 2.00 mm

⑧ Insulating glass double-paned, 24.00 mm

Linked building elements

Building element (opaque)

Installed capacity

DIN 276

1.

► Gypsum plaster/paint

350 m²

336 Exterior wall claddings, interior

Edit | Remove | Delete

2.

► Bricks 24 cm

350 m²

331 Load-bearing exterior walls

Edit | Remove | Delete

Screenshot of components editor; example: model of exterior wall structure

Life Cycle Assessments in the Construction Sector

The online database for construction materials ÖKOBAUDAT and the life cycle assessment tool eLCA

Life Cycle Assessments in the Construction Sector

The ecological and health-relevant assessment of buildings, and the selection of construction materials, is gaining importance.

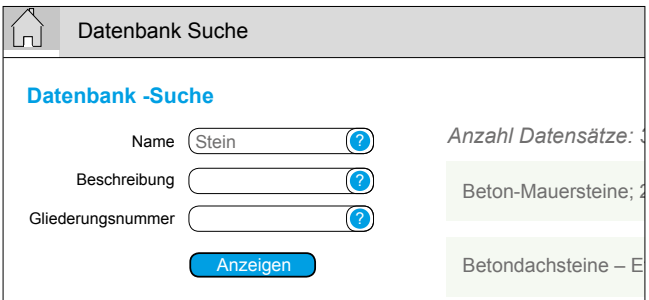
Life cycle assessments for buildings are used for quantitative calculations and the assessment of environmental factors. A building's environmental impact is measured, regarding for example, the greenhouse effect, the hole in the ozone layer, acid rain, smog and overfertilisation. The purpose of life cycle assessments is to rate the energy input required to use a building and to assess the materials used in the construction as well as their subsequent disposal.

This comprehensive analysis regarding the entire life cycle yields insights for the ecological optimisation of the building.

ÖKOBAUDAT

ÖKOBAUDAT is an online database containing quality-checked LCA data sets from the construction sector for all relevant building materials. This database is accessible free of charge as part of the Assessment System for Sustainable Building (BNB). It forms the basis for the ecological analysis of buildings.

ÖKOBAUDAT data sets are subject to strict quality criteria and thus allow for reliable conclusions about a building's ecological quality.



Datenbank Suche

Datenbank -Suche

Name Stein

Beschreibung

Gliederungsnummer

Anzeigen

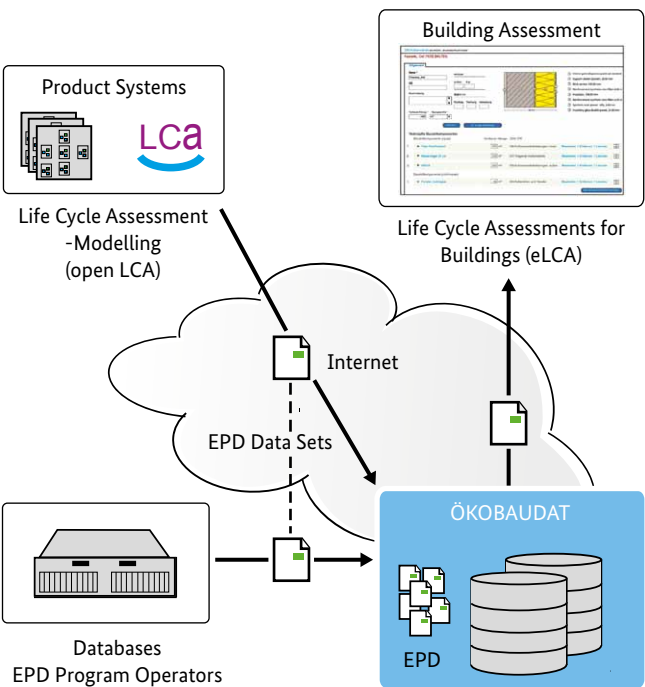
Anzahl Datensätze: 3

Beton-Mauersteine; 2

Betondachsteine – E

Screenshot of search screen. Convenient data set search using ÖKOBAUDAT

ÖKOBAUDAT as the central data basis



ÖKOBAUDAT offers

- basic data for life cycle assessments within BNB
- LCA data for the essential building product groups as well as utilisation and end-of-life scenarios
- generic and product-specific data from the Environmental Product Declaration (EPD)
- DIN EN 15804-compliant data
- uniform data format
- search and filter function
- direct import of LCA data
- export of LCA data to the LCA tool (eLCA)
- rules for importing LCA data into ÖKOBAUDAT
- online availability

Imprint

Publisher

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)
Dept. B I 5 · 11055 Berlin
E-mail: BI5@bmub.bund.de · Internet: www.bmub.bund.de

Editor

BMUB, Dept. B I 5 (Civil Engineering, Sustainable Construction, Building Research)

Technical editing

Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)
E-mail for ÖKOBAUDAT: tanja.brockmann@bbr.bund.de
E-mail for eLCA: stephan.roessig@bbr.bund.de

Design

finedesign, Berlin

Print

BBR, Bonn, Germany

Picture credits

Title image: Andreas Meichsner, BBR
Graphic p.3 Oliver Kusche, KIT

Last update

September 2014

1st edition

Circulation of 500 copies

How to order this publication

Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)
Dept. II 6 - Construction and Environment
E-mail: Referat-2-6@bbr.bund.de · Internet: www.bbsr.bund.de

Note

This publication is part of the public relations of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. It is distributed free of charge and is not intended for sale. Printed on recycled paper.