



Federal Institute for
Research on Building,
Urban Affairs and
Spatial Development

within the Federal Office for
Building and Regional Planning



Sustainable Building by the Federal Government

Strategies and Implementation



Sustainability as a Strategy

Germany has set ambitious targets to achieve a more equitable and more environment-friendly global development. Among other issues, the aim is to create an almost climate-neutral building stock until the middle of the century. This goal can only be achieved by buildings that are already today planned and built energy-efficient, climate-friendly, and sustainably.

The German Federal Government bears a responsibility – both as a client for its own buildings and, in particular, as a role model and impetus for other public and private clients.

With the Guideline and the Assessment System for Sustainable Building, the Federal Building Ministry has developed a set of instruments that allows holistic consideration, assessment and documentation of the sustainability of buildings – mandatory for federal buildings, but applicable to municipal and private building projects as well. With the BNB's update, the BBSR supports the Federal Government's national sustainability strategy in the building sector promoting the implementation of the Guideline in the federal construction sector and beyond that.



Guideline for Sustainable Building

The central document is the Guideline for Sustainable Building that supports the integration of sustainability requirements in planning and decision-making processes throughout the entire life cycle of buildings by means of general principles descriptions and appropriate methods. Not least, as a basis for sustainable planning and construction the Guideline requests specifications for target agreements and verification methods for quality control and documentation already during the project development.

The Guideline consists of four parts that additionally to the general principles also include recommendations for the use and operation and notes of refurbishment projects.

As an explanatory framework document for the implementation of the holistic requirements, the Guideline also regulates the application of the Assessment System for Sustainable Building (BNB) and defines specific requirements for federal building projects in the field of sustainability.



Assessment System BNB

The Assessment System for Sustainable Building (BNB) is characterised by a holistic view of the entire life cycle and serves to quality assurance in the sustainable planning, construction, and operation of buildings. According to the protection goals, as described in the Guideline for Sustainable Building, the main criteria groups ecology, economy and socio-cultural and functional quality are assessed.

Main Criteria Groups of the BNB System



Source: BBSR

As cross-sectional qualities with relevance for all core areas of sustainability, technical quality, and process quality are assessed as well. The sixth main criteria group being considered but excluded in the overall assessment of the building, is the location profile.

Criteria related to the protection goals are assigned to the six main criteria groups. At this level, the actual assessments of the buildings' qualities are carried out with transparent rules and objective methods, which are described in detail in the criteria profiles. From the degrees of fulfilment of the five main criteria groups, the overall degree of fulfilment or the overall rating of the building are calculated with a fixed weighting, which ultimately applies to the classification into the quality standards of Gold, Silver, and Bronze.

For the different life cycle phases of buildings, Assessment System for Sustainable Building offers the three BNB modules “New Construction”, “Use and Operation” and “Complete Refurbishment”. By this way the BNB is simultaneously referring to the Guideline for Sustainable Building, which is directly related to it. While the Guideline defines the requirements, the BNB serves as a verification instrument of qualities achieved.

Interaction between the Guideline and the BNB



Source: BBSR

The special features of different building and use categories are considered by differentiated system variants. Currently, specific system variants are available for the following selected building and use types:

- Office and Administration Buildings including the modules New Construction, Use and Operation, Complete Refurbishment
- Educational Building including the module New Construction (Complete Refurbishment in the second quarter of 2017)
- Laboratory Building including the module New Construction
- Outdoor Facilities

The continuous BNB updating is based on current research results as well as adjustments in the field of legal norms and rules.

Work Aids, Tools and Database at a Glance



For the implementation of the requirements for sustainable buildings, information offers, work aids, and a reliable data base are available.

With the **System for Sustainability Requirements in Design Competitions (SNAP)**, essential requirements for the sustainability of buildings can already be appropriately considered during architectural competitions.

The **WECOBIS** platform provides basic knowledge and work aids for the selection of healthy and environmentally compatible construction materials for planning and tendering. These include, for instance, information on ingredients, environmental impacts of materials and text for invitation to tender.

The **electronic life cycle analysis (eLCA)** serves as a tool for the simple eco balance of buildings. The building block editor enables the visual modelling of building components and the assessment of environmental impacts.

ÖKOBAUDAT provides basic data and contains both generic data sets and company or association-specific records from environmental product declarations (EPD). BBSR's "Service Life Table" completes the data base for the calculation of the eco-balance and the life cycle cost analysis.

The **Electronic Assessment System for Sustainable Building (eBNB)** is a process-monitoring assessment tool that assists through the workflow and later upon documenting the achieved quality. It also facilitates to assess building projects scientifically and simplifies fundamental and research activity in the field of sustainable building, and to enhance the BNB system.

The entire information and further work aids are available via the central **Sustainable Building Information Portal** (www.nachhaltigesbauen.de).

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