The Network for Sustainable Federal Building as an Instrument of Quality Assurance in the Implementation of the Assessment System BNB in the Public Sector

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Contents

Evaluation of Sustainability in the Public Sector
Development of Instruments and Tools
Implementation of the Sustainability Assessment
Conclusion
Evaluation of Sustainability in the Public Sector in Germany
Guideline and Assessment System BNB
Interrelations

Guideline for Sustainable Building

Assessment System for Sustainable Building (BNB)

Part A
Principles for Sustainable Building

Part B New Building

Part C Use and Management

Part D Refurbishment of Buildings

Broschure “Sustainable Outdoor Facilities”

BNB New Building
Office Buildings; Schools; Labs

BNB Operation and Maintenance
Office Buildings

BNB Complete Modernization
Office Buildings

BNB Outdoor Facilities
Federal Properties

Chart 5

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Guideline and Assessment System BNB
Main Criteria Groups

- Ecological Quality (22.5%)
- Economic Quality (22.5%)
- Sociocultural and functional Quality (22.5%)
- Technical Quality (22.5%)
- Process Qualität (10.0%)
- Location Profile

Chart 6  
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Guideline and Assessment System BNB
Main Criteria Groups

- **Ecological Quality**
  - 10 Criteria:  Energy, Ecobalance - LCA, Pollutants, Water, Terrain, Wood

- **Economical Quality**
  - 3 Criteria:  Life Cycle Costs, Space Efficiency, Capability of Conversion

- **Sociocult. + funct. Quality**
  - 12 Criteria:  Building Physics, Health (VOC), Acoustics, Daylight, Accessibility, Competitions

- **Technical Quality**
  - 6 Criteria:  Sound and Heat Insulation, Cleaning, End of Life, Recycling

- **Process Quality**
  - 8 Criteria:  Integral Planning, Concepts, Quality Management, Documentation

- **Location Characteristics**
  - 6 Criteria:  Risks and Qualities, Transport Connection, Utilities
Guideline and Assessment System BNB
New Quality Standard for Federal Buildings

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Note
Certificate

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Chart 8
Development of Instruments and Tools
WECOBIS is a web portal providing basic knowledge for healthy and ecofriendly construction. WECOBIS categorises environmental and health aspects according to the life cycle and to the quality levels described in the criteria under the Assessment System BNB.
ÖKOBAUDAT - online database, containing quality-checked LCA datasets for all relevant building materials used in the construction sector. 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. (www.oekobaudat.de/en)
eLCA
Life Cycle Assessment Tool

The Life Cycle Assessment Tool – eLCA is an easy-to-use and computer-based tool used for quantitative calculations and the assessment of environmental factors (ecobalance). It supports users in complying with these requirements across the entire planning and building process.
eBNB
Building Evaluation and Documentation Database

The target was to develop a central data source, which can be accessed by everyone involved in planning, construction and evaluation. eBNB is integrated into a higher-level system of the building administration.
Implementation of the Sustainability Assessment

Chart 14
Model role of the Federal Government
New Quality Standard for Federal Buildings

Selected Projects:

- Federal Constitutional Court
- Environmental Agency, UBA 2019 Berlin – New Building
- Federal Ministry of Education and Research in Berlin
- Environmental Agency, Dessau New administration building
- UN Campus Bonn – New building
- German Center of Aircraft and Space in Cologne – New Building
- German Embassy Washington – Modernization
- German School - Brussels
New Administration Building
Federal Environmental Agency, Berlin

- New administration building for about 32 employees in a research campus
- “Zero Energy Building” - therefore the building fulfilled already the standard required by the European Union from 2019
- 100% use of renewable energy
- Certificated with BNB Gold standard
- Innovative building components
Complete Refurbishment
Federal Constitutional Court, Karlsruhe

- The BNB “Complete Refurbishment” module was in 2012 evaluated in a field study
- The Federal Constitutional Court was the first project evaluated with this BNB “Complete Refurbishment” module
- Certificated with BNB Silver standard
- The building is of outstanding importance in his architecture and a listed building
Transfer to municipal projects
City of Hohen Neuendorf / New Primary school

• One of the first municipal projects with BNB Certification
• New building for a plus energy primary school with an integrated triple sports hall
• Integrated design process considering significant technical, energetic and functional requirements
• Innovative building components
Conclusion
Conclusion

• Sustainable procurement is a fundamental principle of the Federal Government in Germany
• The German assessment system addresses important climate-relevant effects
• The Guideline for Sustainable Building was implemented into the practical work of the Federal Building Authorities
• The Assessment System Sustainable Building (BNB) has been successfully applied for federal buildings
• The instruments for a practical application are available
• Now the challenge is to introduce the BNB Assessment System in the municipal sector and residential construction
Thank you

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