

## **Presentation Abstract (Extended)**

### **Topic: I Sustainable Housing and Construction in Europe**

#### **Title: From the Energy Evaluation to the Assessment of the Sustainable Building Performance**

#### **Authors:**

Prof. Dr.-Ing. Gerd Hauser; Institute of Building Physics, University of Technology, Munich, Germany, hauser@tum.de and Head of the Fraunhofer Institute for Building Physics (IBP), Stuttgart, Germany, hauser@ibp.fraunhofer.de

Dipl.-Ing. Natalie Essig; Assistant Professor, Institute of Building Physics, University of Technology, Munich, Germany, essig@tum.de

#### **Keywords:**

Certification, Assessment of the Sustainability Building Performance, Energy Performance Certificate

Buildings are significant factors of all national economies. In order to label their quality and sustainable building performance, standardized evaluation methods are necessary. These methods should contain a high level of detail on one hand, and be as clear as possible and easy to understand for the user on the other hand, priorities differ according to the building type (housing, office, etc.).

There are already several international and European approaches to holistic building assessment methods, such as BREEAM (Building Research Establishment Environmental Assessment Method, GB), LEED (Leadership in Energy and Environmental Design, USA), SBTool (Sustainable Building Tool, World Green Council, international), LEnSE (Label for Environmental, Social and Economic Buildings, Europe) etc.. The presentation will show a comparison of these assessment methods, as well as the actual situation and the further development in Germany: the way from the energy evaluation (Energy Performance Certificate) to the future assessment of the whole sustainable building performance (certification).

Almost two decades after the first presentation, an important element in the description of the energetic quality of a building can be considered to have been worked out in Germany (1). The energetic labelling of new buildings and, in numerous cases, also of existing buildings, by means of an Energy Pass has been made obligatory by the Energy Saving Regulation of 2007 (EnEV 2007) (2). Now the Federal Ministry of Transport, Building and Urban Affairs (German abbreviation BMVBS) and the German Society for Sustainable Building, which was founded in 2007 in Stuttgart (German abbreviation DGNB), are working on a method to assess the whole building performance. This new instrument for holistic building assessment takes up from agreements on international standardization and has as its motto, transparency and orientation to practice. With regard to the future German system, it is becoming apparent that the following areas will flow into the assessment of the dimensions of sustainability: Ecological Quality, Economic Quality, Social-cultural and Functional Quality.

Not only the owner and the user of the building can profit from this, however, but also predominately the German and European building industry, whose environmental competence is rated very highly in international comparisons. This strength should be acknowledged in the international market with this new assessment method for the sustainable building performance.

(1) Hauser, G. and Hausladen, G. 1990, Energiekennzahl zur Beschreibung des Heizenergieverbrauchs von Gebäuden. Gesellschaft für Rationelle Energieverwendung e.V. (ed.).

(Hauser, G. and Hausladen, G. 1990, Energy code number for describing the heating energy consumption of buildings. Society for Rational Use of Energy (ed.).)

(2) Verordnung über energiesparenden Wärmeschutz und energiesparende Anlagentechnik bei Gebäuden (Energieeinsparverordnung – ENEV) vom 24. Juli 2007. Bundesgesetzblatt 2007, Teil 1, Nr. 34.

(Regulation on energy-saving heat insulation and energy-saving installation technology in buildings (Energy Saving Ordinance – ENEV) from July 24th 2007, Federal Law Gazette 2007, Part 1, Nb.34.)