

# The Austrian Sustainable Building Certificate for buildings and city districts

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## 1 ABSTRACT

In 2010, the Austrian Sustainable Building Certificate is being implemented in Austria. Starting with eight pilot-projects with office-buildings, the certificate will be available for housing, education buildings, industrial buildings and also for city-districts. The certification-process provides a sustainability-rating-tool which shows the overall sustainability performance of the building or the city-district. On a more detailed level it shows the performance in over 50 single sustainability criteria. Thus using the rating tool in the concept and planning phase, it provides a compass to lead the way to more sustainable buildings and more sustainable city-districts.

## 2 BACKGROUND

### 2.1 General

The following reasons demand sustainability activities in the real estate sector and construction industry:

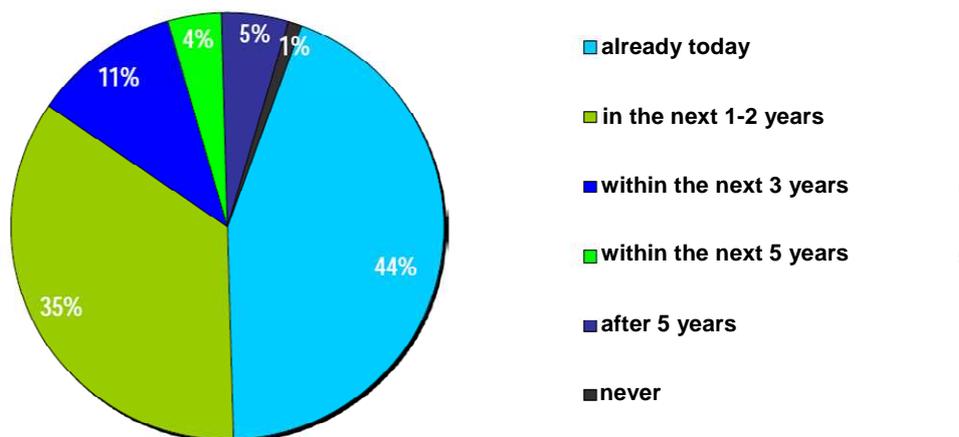
- Climate change
- Shortage of resources (above all: oil)
- Land-consumption
- Collapse of the real estate industry

The construction and real estate economy accounts for estimated 20% of the overall economy in western Europe. A change in the sustainability performance has therefore a big influence on the sustainability of the whole economy<sup>1</sup>.

### 2.2 Trends in the real estate industry

Sustainable buildings become more and more relevant. A survey among 400 leading senior managers in real estate firms or real estate divisions of large firms, comes to the conclusion, that almost 80% of the interviewees consider sustainable buildings already relevant for the real estate business. The following illustration shows the details:

#### Will sustainable buildings become relevant for the real estate business ?



Source: Survey among 400 leading sen. managers in real estate firms or RE-divisions of large firms. CoreNet Global & Jones Lang LaSalle, January 2008.

Figure 1: Relevance of sustainable buildings for the real estate business

<sup>1</sup> Estimation by Ward Miller, denkstatt, Leed-Auditor

The crucial factor for more sustainable buildings is to take the whole lifecycle into account. All relevant aspects of sustainability in the fields of economy, ecology and society in the whole lifecycle of the building have to be considered. The following image shows the relevant phases of the lifecycle of a building.



Figure 2: Lifecycle of a building<sup>2</sup>

Especially the lifecycle costs can only be influenced at the very beginning of the conception and planning process. Around 50% of the costs can be influenced in the conception and planning phase, around 25% in the conception phase. It is important to realize, that only 15-20% of the lifecycle costs occur in the planning and construction phase, 80-85% occur in the utilization phase. Up to 50% of the costs in the utilization phase can be reduced by sustainable planning<sup>3</sup>.

To help builders and planners to consider all relevant aspects of sustainability, and to support investors in identifying real estate with stable value, several sustainability rating systems, labels and certificates are available. The following image shows a selection of these systems:



The most favored systems in Europe are BREEAM, LEED and the DGNB. With the Austrian Sustainable Building Certificate (ÖGNB), the DGNB-system is now being adapted for the Austrian conditions and requirements.

### 3 THE AUSTRIAN SUSTAINABLE BUILDING CERTIFICATE FOR BUILDINGS

#### 3.1 Why the Austrian sustainable building certificate (ÖGNB)?

The ÖGNB is an assessment system of the 2. generation. The ÖGNB provides the most comprehensive verification of the sustainability of a building. It is ideally adopted to the Austrian and European building culture. The ÖGNB process follows the legal regulations and the planning practice in Austria. Verification

<sup>2</sup> T. Bohn, T. Harlfinger, J. Ringel (ed.); "Real Estate Business"; Leipzig 2008, Urban Management Script

<sup>3</sup> Cp. Bruhnke, J. Ringel (ed.); „Facility Management“; Leipzig 2008, Urban Management Script

documents can be taken from the common planning process. The economic performance of the building is, among ecological aspects, equally assessed. The performance of the building - and not single measures – are assessed. The certification system is continuously developed and considers technical, social and international developments.

Systems like LEED or BREEAM don't cover completely all aspects of sustainability. The ÖGNB fills the gaps. The following figure shows these gaps.

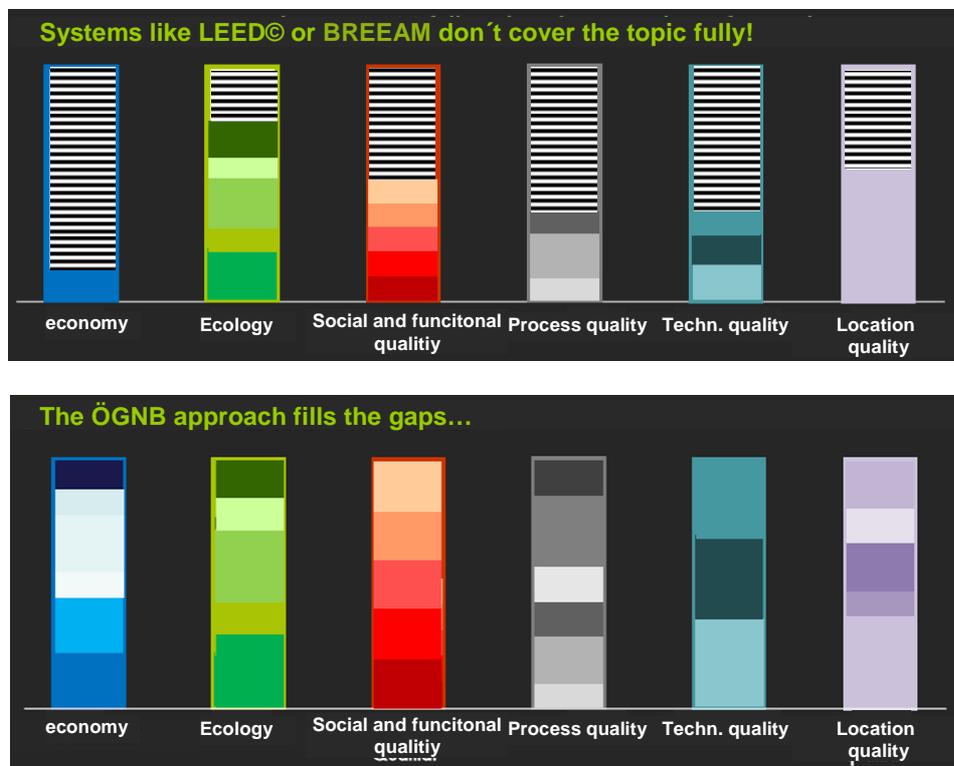


Figure 3: Comparison of the sustainability range of different certificates for sustainable building<sup>4</sup>

### 3.2 The ÖGNB-method

The ÖGNB is a transparent, comprehensible assessment system, developed from practical experience. It defines the quality of buildings in a comprehensive way and allows a systematic valuation for auditors. A user friendly software solution supports and visualizes the documentation and assessment process. Diverse building types can be valued through different system options. The valuation considers 6 fields of criteria:

- Economical quality
- Ecological quality
- Social quality
- Technical quality
- Process quality

With the valuation matrix the sustainability of the building is assessed with 50 sustainability criteria. Each criterion can achieve max. 10 points. The significance of the criteria is weighted from 0 to 3. The result is given in the percentage of the overall degree of sustainability performance):

50% = ÖGNB bronze;  $\geq 65\%$  = ÖGNB silver;  $\geq 80\%$  = ÖGNB gold

The performance in the several criteria is presented in the following figure:

<sup>4</sup> Source: German Sustainable Building Council (DGNB)

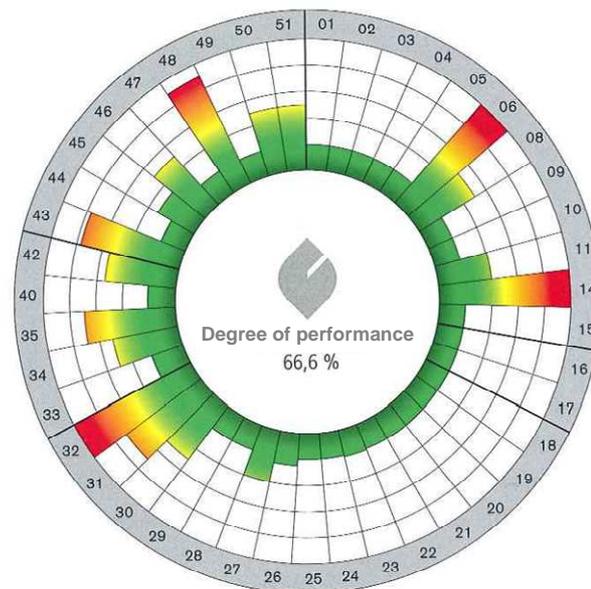


Figure 4: Sustainability performance diagram<sup>5</sup>

Used in the conception and planning phase the system provides a sound planning tool for improved and integral planning.

#### 4 THE AUSTRIAN SUSTAINABLE BUILDING CERTIFICATE FOR TOWN DISTRICTS

The same method is currently developed for city districts. A set of around 90 criteria covers all aspects of sustainability in urban planning and provides also an integral planning tool.

At the moment, more detailed information about this ÖGNB-system type is not available. At the REALCORP in May, the information will be provided.

#### 5 CONCLUSION

The real estate market demands planning tools and certificates to improve and prove the sustainability performance of buildings. With the implementation of the Austrian Sustainable Building Certificate an integral planning-, rating- and certification-tool is available in Austria and will be available in other countries. The development of the system type “City-districts” will provide an integral planning-, rating- and certification-tool for sustainable urban planning and sustainable urban management.

#### 6 REFERENCES

- T. Bohn, T. Harlfinger, J. Ringel (ed.); “Real Estate Business”; Leipzig 2008, Urban Management Script  
Bruhnke, J. Ringel (ed.); „Facility Management“; Leipzig 2008, Urban Management Script  
Deutsche Gesellschaft für Nachhaltiges Bauen (ed.); “Das deutsche Gütesiegel für Nachhaltiges Bauen – Aufbau, Anwendung, Kriterien”; Stuttgart 2009

<sup>5</sup> Source: German Sustainable Building Council (DGNB)