Sustainability assessment of buildings and corporate real estate management – the risk management perspective

Mag. Dr. Susanne Geissler

ERES Conference July 2013 Vienna

Non-profit association ÖGNB

The Austrian Sustainable Building Council (ÖGNB) was initiated and founded in Austria in January 2009, by a number of renowned and independent institutions (see below) in the field of sustainable building.

Membership is open to all who are interested, to institutions and businesses seeking to participate actively in **supporting the Austrian building industry in the transition towards sustainable building.**

The Austrian Sustainable Building Council is a non-profit association which addresses everyone interested in promoting sustainable building in Austria.

ÖGNB decision-making bodies include businesses, science and the public sector equally; attention is paid to ensure that there is no absolute majority in the body of one stakeholder group.

The ÖGNB network

Bau.Energie.Umwelt.Cluster NÖ (Construction.Energy.Environment. Cluster Lower Austria) Haus der Zukunft (Building of Tomorrow), IG Lebenszyklus Hochbau (IG Life-cycle Building Construction), klima:aktiv, nextroom, Staatspreis Architektur und Nachhaltigkeit (National Award for Architecture and Sustainability), …

ÖGNB fosters the exchange of information and variable forms of cooperation, e.g. participation in working groups or joint development of contents. It provides the ÖGNB building assessment system as well as technical support, e.g. for the scientific Council of the Environment and Building Initiative.

Das Programm Cluster Niederösterreich wird mit EU - Mitteln aus dem Europäischen Fonds für regionale Entwicklung (EFRE) und Mitteln des Landes Niederösterreich kofinanziert.

ÖGNB sustainable building assessment/quality label

The ÖGNB quality label is based on the TQB assessment system.

TQB (Total Quality Building) is a planning, assessment and quality control tool for the building sector tailored to Austrian construction practice.

It includes a criteria and goal catalogue, which defines requirements for sustainable buildings, and the procedure for assessing and receiving an energy performance certificate (“Building Passport”).

First of all, TQB aims at building optimization in the planning stage.

Elements of building assessment schemes

(1) Assessment system

- **Criteria:** which kind of information is needed for assessment (e.g. heating energy consumption)
- **Indicators:** how to describe the performance of the defined criteria (e.g. kilowatt hours per square meter heated gross area and year)
- **Assessment scale:** defines the requirements; which performance is good and which one is bad by allocation of scores (e.g. heating energy consumption less than 15 kilowatt hours per square meter heated gross area and year receives the highest score)
- **Weighting:** which criteria are more important than others, and by how much (e.g. more points are allocated to energy related criteria than to material related criteria)

(2) Assessment procedure

- Data collection and check of data
- Awarding of points based on the data provided
- Awarding the certificate

sustainability assessment of buildings as a risk management tool

The assessment result contains two parts:

- **Compilation of quantitative data and qualitative information about the building.**
- Assessment result for market communication, in order to tell consumers how good the performance of the building is.

ÖGNB assessment criteria (TQB-Tool)

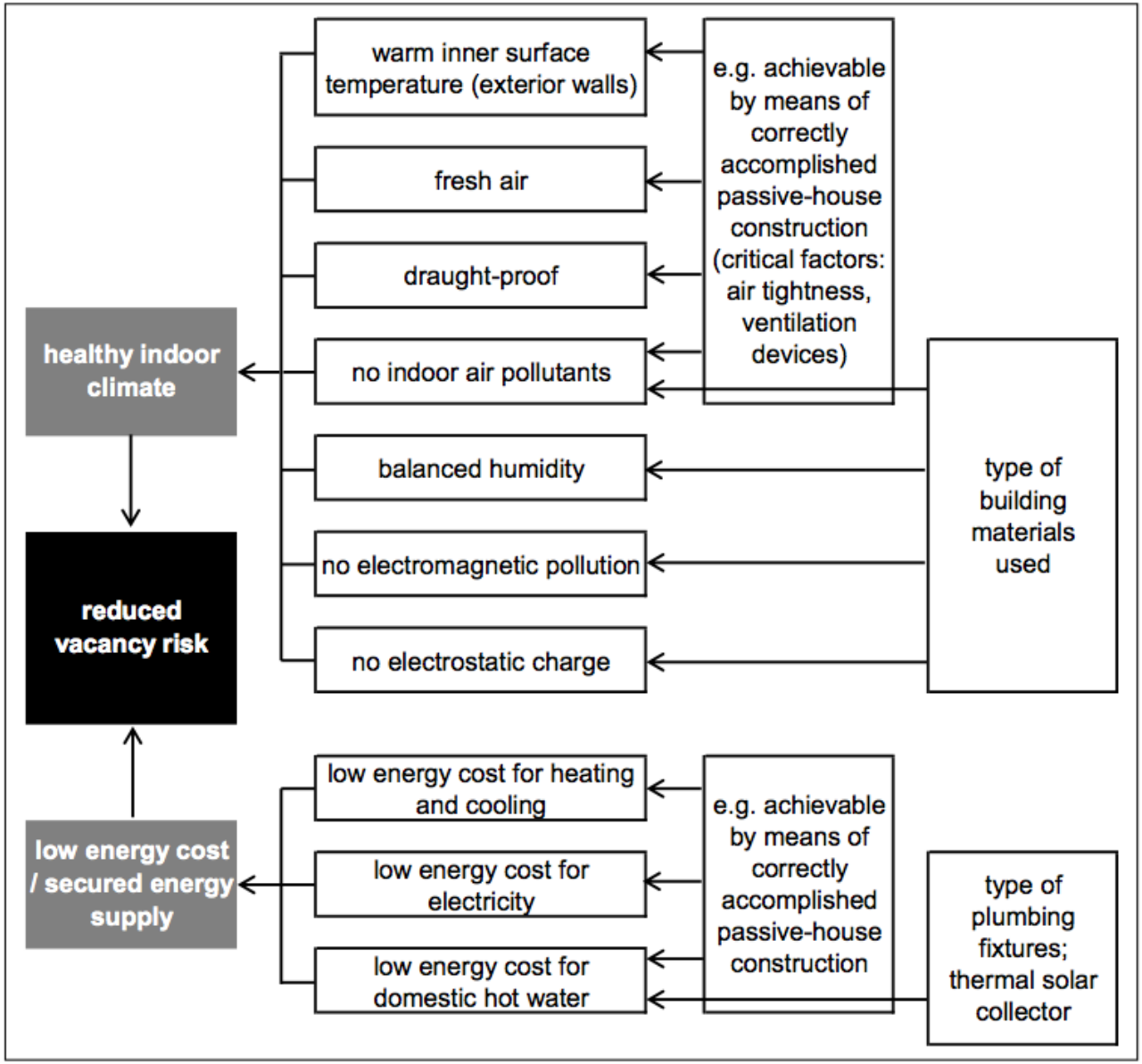
	Category and criteria (German original)	English translation
A	**Standort und Ausstattung**	**Location and amenities**
A.1	Infrastruktur	Infrastructure
A.2	Standortsicherheit und Baulandqualität	Security
A.3	Ausstattungsqualität	Amenities
A.4	Barrierefreiheit	Accessibility
B	**Wirtschaftlich und technische Qualität**	**Economical and technical quality**
B.1	Wirtschaftlichkeit im Lebenszyklus	Life cycle cost assessment
B.2	Baustellenabwicklung	Construction site management
B.3	Flexibilität und Dauerhaftigkeit	Flexibility and longevity
B.4	Brandschutz	Fire prevention
C	**Energie und Versorgung**	**Energy and water**
C.1	Energiebedarf	Energy consumption
C.2	Energieaufbringung	Energy production
C.3	Wasserbedarf und Wasserqualität	Water consumption and water quality
D	**Gesundheit und Komfort**	**Health and comfort**
D.1	Thermischer Komfort	Thermal comfort
D.2	Raumluftqualität	Indoor air quality
D.3	Schallschutz	Noise protection
D.4	Tageslicht und Besonnung	Daylight and sun
E	**Ressourceneffizienz**	**Resource efficiency**
E.1	Vermeidung kritischer Stoffe	Avoidance of harmful substances
E.2	Regionalität, Recyclinganteil, zertifizierte Produkte	Quality of products (local production, recycling material, certified products)
E.3	Ökoeffizienz des Gesamtgebäudes	Eco-efficiency of the entire building
E.4	Entsorgung	Demolition and disposal

Building quality aspects and saleability

- Building quality aspects are finally cost-related factors, which might affect the saleability of a property.
- Assessment schemes for assessing the sustainability of buildings provide a full range of decision-making criteria to consider all building related risk aspects, which are already on the rise or might become important in the near future.
- However, it is the responsibility of the informed expert to decide between options.

Building quality aspects and vacancy risk

ÖGNB
Österreichische Gesellschaft für Nachhaltiges Bauen



Other building related risk aspects

ÖGNB
Österreichische Gesellschaft für Nachhaltiges Bauen

TQB categories and criteria	Information provided by the data collection report	Relevant legal framework	Comments on reasons for a better sales potential of buildings with very good energy performance in terms of energy efficiency and renewable energy use
Energy consumption	Heating energy consumption (represents the quality of the building envelope, basic energy efficiency indicator) Efficiency of the heating and cooling system Primary energy demand (represents the overall efficiency)	(1) Energy Performance of Buildings Directive (Directive 2010/31/EU) (2) Ecodesign Directive (Directive 2009/125/EC) (3) Renewable Energy Sources Directive (Directive 2009/28/EC) (4) Energy Efficiency Directive (Directive 2012/27/EU)	(1) The recast of the Directive 2002/91/EC was adopted with extensions to cost optimality and requirements regarding Nearly Zero Energy Buildings: energy efficiency becomes even more important as well as building integrated renewable energy technologies. (2) The recast of the Directive 2005/32/EC was adopted with an extension to energy related products. Labelling of products (e.g. pumps and fans) will lead to a fast development of energy efficiency standards, comparable with the development, which has taken place in the field of household appliances. (3) A defined share of renewable energy supply has to be achieved and building integrated technologies play an important role. (4) Energy efficiency targets have to be achieved and there are specific policy instruments addressing the building sector. The public administration leads by example and through commitment to build or rent only buildings, which comply with ambitious energy standards.
Energy production	Renewable energy technologies on site: e.g. photovoltaic plant for electricity production e.g. solar-thermal plant for domestic hot water production		

TQB on oegnb.net

https://www.oegnb.net/zertifikat.htm?typ=wb

Testing the TQB tool

For testing purposes, please find the TQB assessment tool for both residential buildings and office buildings. Please note that building data cannot be saved on this site.

To make full use of the service including transfer of proof for the building assessment, you need to register as consultant. Registration is free. An English version will be available in autumn 2013.

	Wohnbau: Demo-Projekt	1000	0
	Gebäudedaten		
A	Standort & Ausstattung	200	0
B	Wirtschaft & techn. Qualität	200	0
C	Energie & Versorgung	200	0
D	Gesundheit & Komfort	200	0
E	Ressourceneffizienz	200	0

TQB on oegnb.net

https://www.oegnb.net/zertifikat.htm?typ=wb

	Wohnbau: Demo-Projekt	1000	0
	Gebäudedaten		
A	Standort & Ausstattung	200	0
A.1	Infrastruktur [mehr Informationen]	50	0
A.2	Standortsicherheit und Baulandqualität [mehr Informationen]	50	0
A.3	Ausstattungsqualität [mehr Informationen]	50	0
A.4	Barrierefreiheit [mehr Informationen]	50	0
B	Wirtschaft & techn. Qualität	200	0
C	Energie & Versorgung	200	0
D	Gesundheit & Komfort	200	0
E	Ressourceneffizienz	200	0

TQB on oegnb.net

https://www.oegnb.net/zertifikat.htm?typ=wb

	Wohnbau: Demo-Projekt	1000	0
	Gebäudedaten		
A	Standort & Ausstattung	200	0
B	Wirtschaft & techn. Qualität	200	0
B.1	Wirtschaftlichkeit im Lebenszyklus [mehr Informationen]	100	0
B.2	Baustellenabwicklung [mehr Informationen]	30	0
B.3	Flexibilität und Dauerhaftigkeit [mehr Informationen]	40	0
B.4	Brandschutz	30	0
C	Energie & Versorgung	200	0
D	Gesundheit & Komfort	200	0
E	Ressourceneffizienz	200	0

Thank you for your attention!

ÖGNB - Österreichische Gesellschaft für Nachhaltiges Bauen
Austrian Sustainable Building Council

Mariahilfer Straße 123/3
1060 Wien/Vienna
Tel +43.1.599 99 8083
geissler@oegnb.net
www.oegnb.net