International Conference

Sustainable Real Estate Development and Green Skills

Swiss-Czech comparative perspective II

SUSTAINABLE URBAN DEVELOPMENT

Theory und Practice

Prague, 16./17. February 2012

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SGNI
Swiss Sustainable Building Council

- Who we are - Swiss Sustainable Buildung Council
- **Initial situation - standards & rating tools in CH**
- **Approach - Adaptation of the DGNB rating system**
- **Exemplification - Life Cycle Costing**

Who we are - History

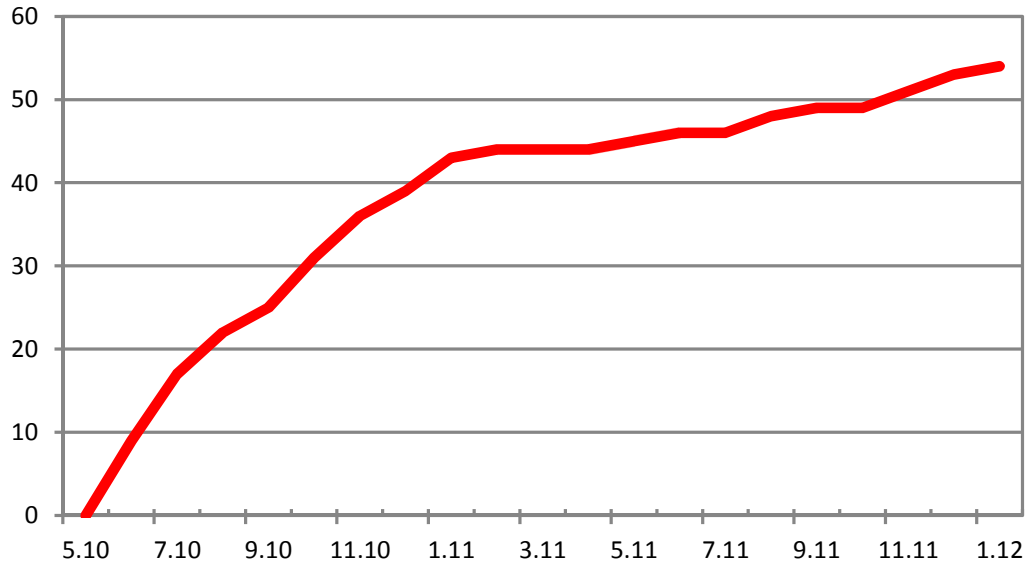
SGNI
The Swiss Society for Sustainable Real Estate
or
Swiss Green Building Council

- Founded 8th June 2010.
- The SGNI is a non-profit organization .
- The founders are all members of the Institute of Facility Management at Zurich University of Applied Sciences.
- Mission is to *“promote environmental, health and socio-cultural goals”.*

Who we are - Members

SGNI
Swiss Sustainable Building Council

Number of members SGNI 2011



- SBB
- Drees&Sommer
- Basler&Hofmann
- CSD Ingenieure
- Ernst Basler + Partner AG
- PGMM Schweiz AG
- Gartenmann Engineering AG
- Pom+Consulting AG
- Lemon Consult
- etc…

Who we are - Aims

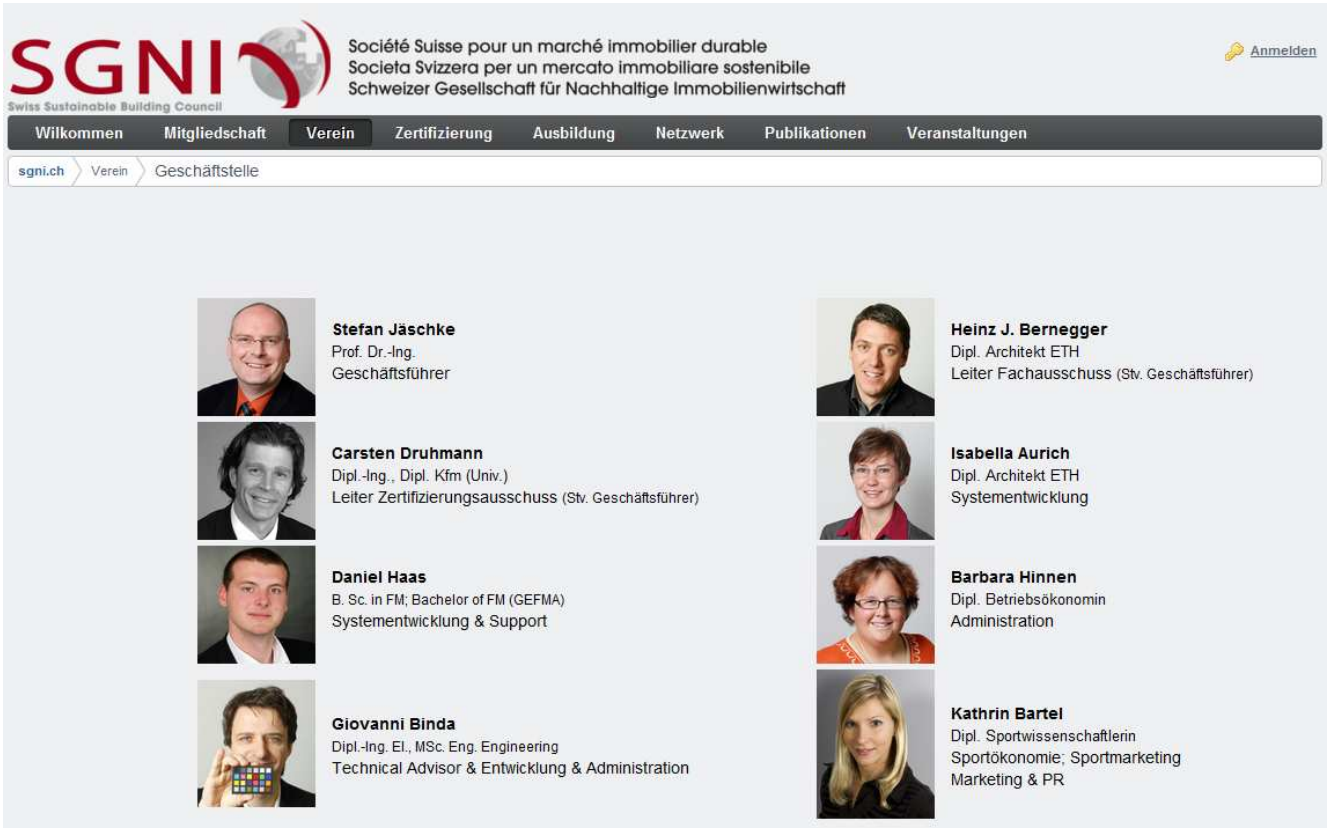
SGNI
Swiss Sustainable Building Council

- Represent Switzerland in the World Green Building Council (prospective member).
- Promote Sustainability in Switzerland.
- Create close working links between Facility Management Academic institutions and Industry to develop Sustainable ways of working.
- Develop close collaborative working relationships with the Construction Industry.

Prime Tower, Zürich (CH), Swiss Prime Site AG

Who we are – office team

SGNI
Swiss Sustainable Building Council



Who we are - Current Activities

- Promotion of Certification Systems in Switzerland
- General Assembly meeting 2011
- Swiss Equity real estate days
- Conference: ”Labels for healthy buildings”
- SGNI Information Sessions
- Real Estate exhibition (real-site, SwissBau)
- Accompanying government`s project “standard for sustainable buildings”

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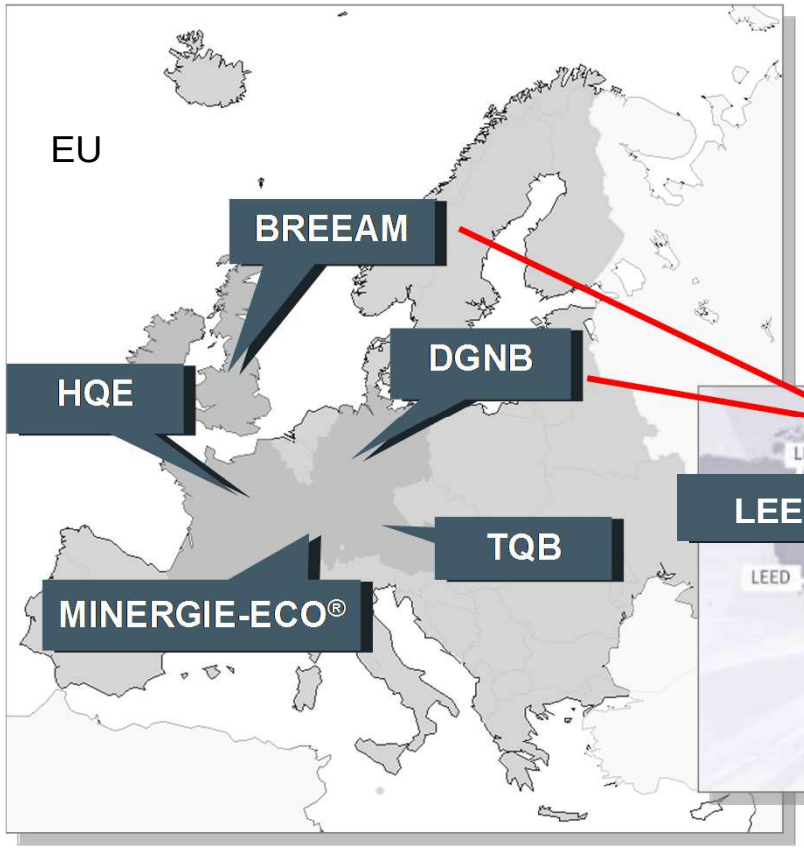
initial situation – label jungle



distribution area, the «big three»

- LEED
  - ca. 2000 zertif. Gebäude
  - 24.000 reg. Gebäude
- BREEAM
  - 9.917 zertif. Gebäude (davon 7400 Wohnen)
  - 18.000 reg. Gebäude (davon 13.000 Wohnen)
- DGNB
  - 72 zertif. Gebäude (53 Büro, 13 Handel, 6 Industrie)
  - > 60 Vorzert. Gebäude

rating systems international

initial situation – label jungle

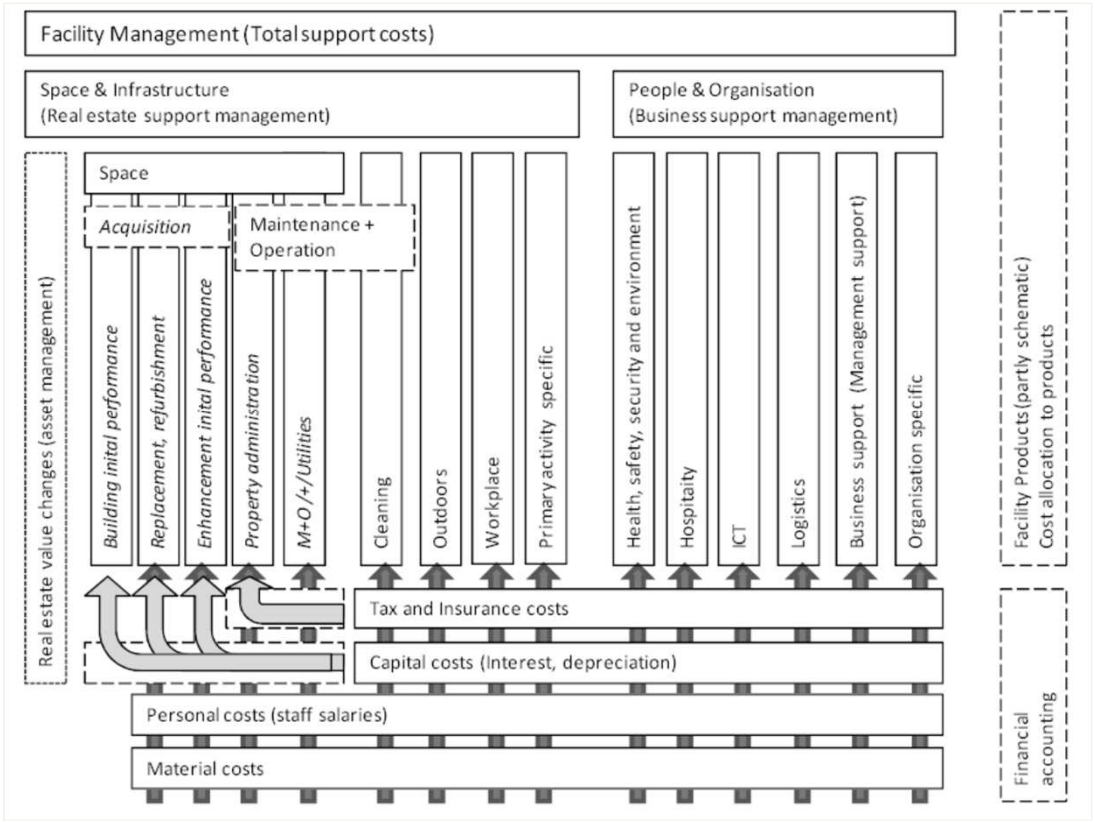
- In Switzerland, as in other countries, a need has been expressed for an (one) appropriate sustainability label.
- There are variety of sophisticated sustainability tools and standards in Switzerland: SIA 112-1 for sustainable building construction
  Minergie/-P/-ECO, GEAK, NaQu, ESI, SPIN, NIS, CS REF GP, GeNaB, ICD, 2000-Watt society…

But do these tools comprehensively fulfill sustainability requirements?

- Yes, if they are accessible, transparant, international compareable, based on local standards, databases etc. and at least comprehensive

  ▶ selection and adaption of an international rating system

initial situation - CEN 348-Definition FM



Taxonomy CEN 348

initial situation - Life Cycle Engineering

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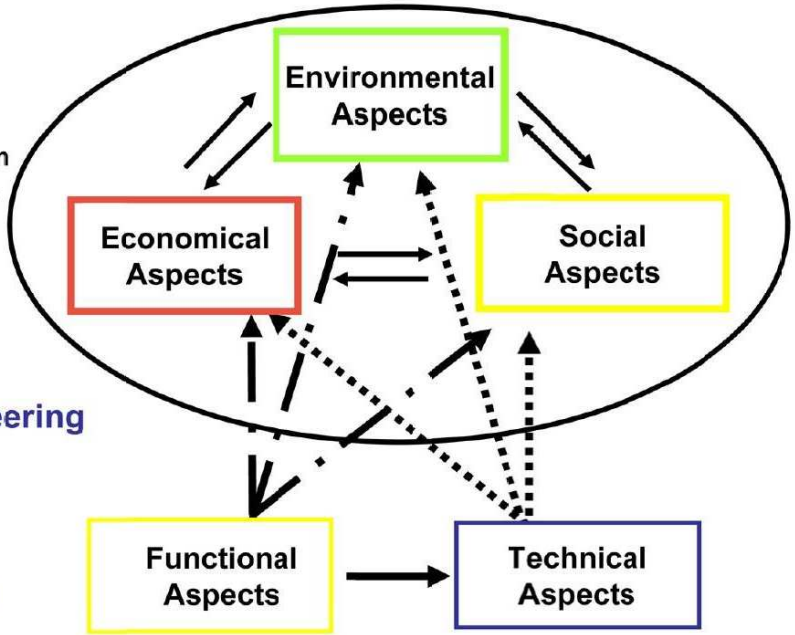
Sustainable Development

Long-time equilibrium of the environmental, economic and social performance of the society



Life Cycle Engineering (LCE)

Equivalent consideration of all building-related aspects

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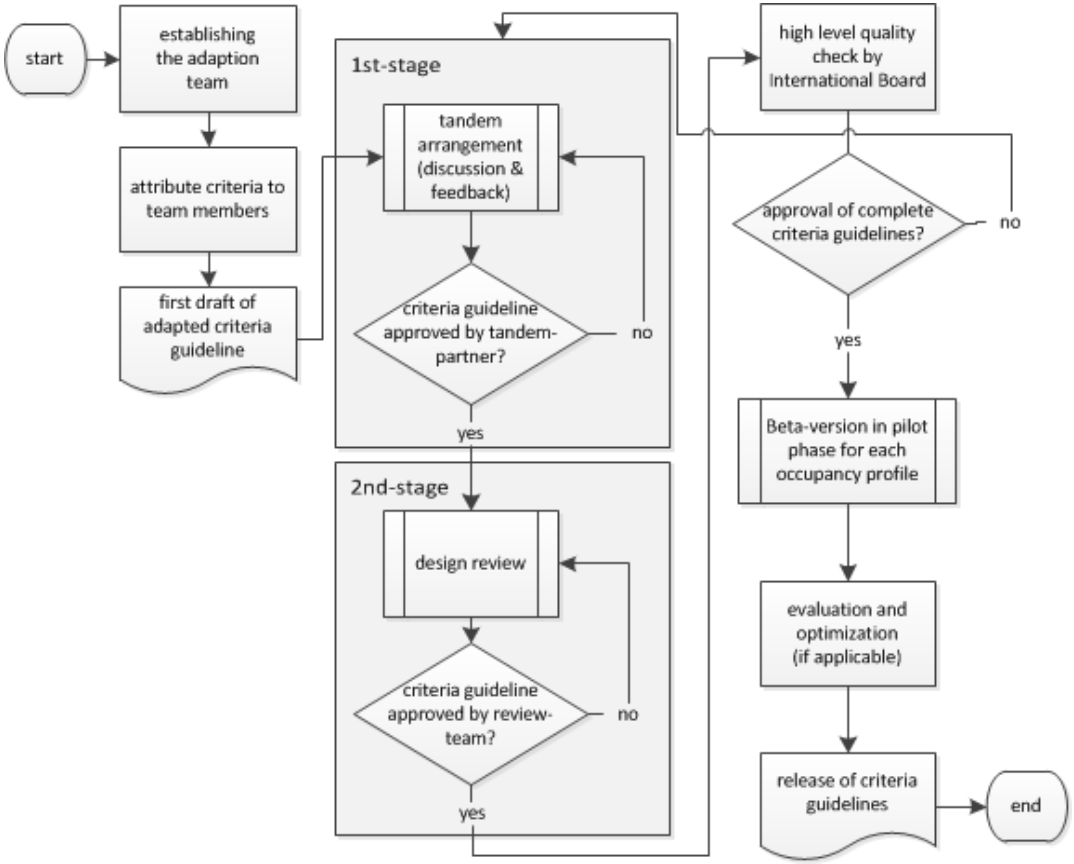
approach - process of adaptation

- An adaptation working group was formed under the leadership of the SSBC. Its members come from various operational areas of the Swiss construction and real estate industry (architects, civil engineers, planners, project controllers and consultants).
- A core team was defined within the working group, to ensure that each focal point of the system was represented by experts in these areas.
- In regular meetings (about three weeks each) the various steps of the adaptation process were identified and processed.
- In the initial phase were some additional people joined the adaptation team, so that the 54 criteria to be modified were finally distributed to 21 team members.
- The adaptation phase startet at the end of August 2010, beta version was available in early summer 2011.

approach - process of adaptation



approach - lessons learned

- The people and expertise involved should represent a broad cross-section of the local construction and real estate industry.
- The entire adaptation process should be predefined and centrally controlled.
- Adjustment in two steps is recommended: first a revision by individual experts and then a review by a larger circle from the adaptation team.
- The adaptation team should be provided with an online library and collaboration platform.
- New, sustainable local standards should be reviewed and possibly integrated, even if they are not yet widespread.
- Whenever available, national standards should be applied, and compatibility with EU standards should be maintained as far as possible.

approach – pilot phase

- The criteria-guidelines adapted have been so carefully reworked, thanks to the centrally controlled process, that they are very easy to handle and apply and hardly any improvements are to be expected (except benchmarks).
- The approach described can not only serve as a blueprint for the adaptation of the DGNB certification system, but is also recommended for country-specific adaptations of other systems.

Majova, Bern (CH), Losinger

Baufeld H Europaallee, Zürich (CH), SBB

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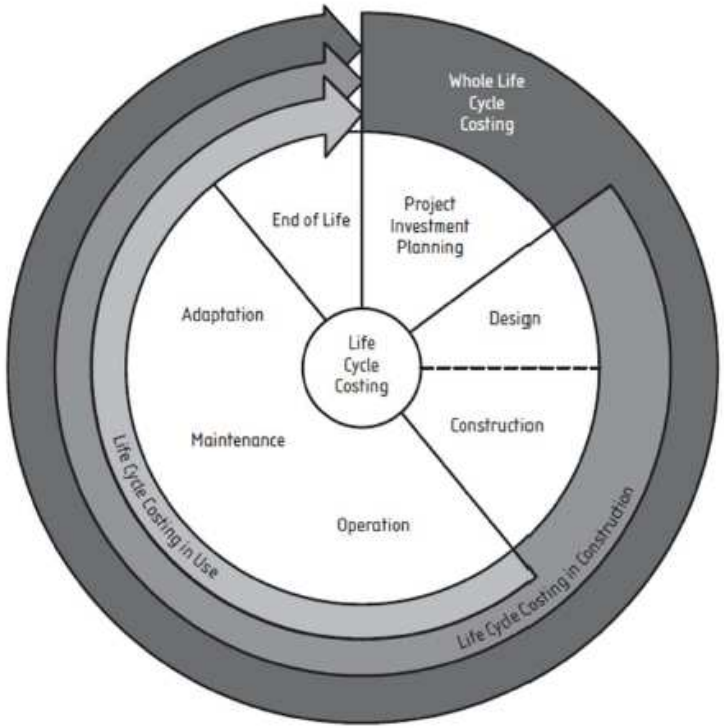
exemplification - LCC



ISO 15686

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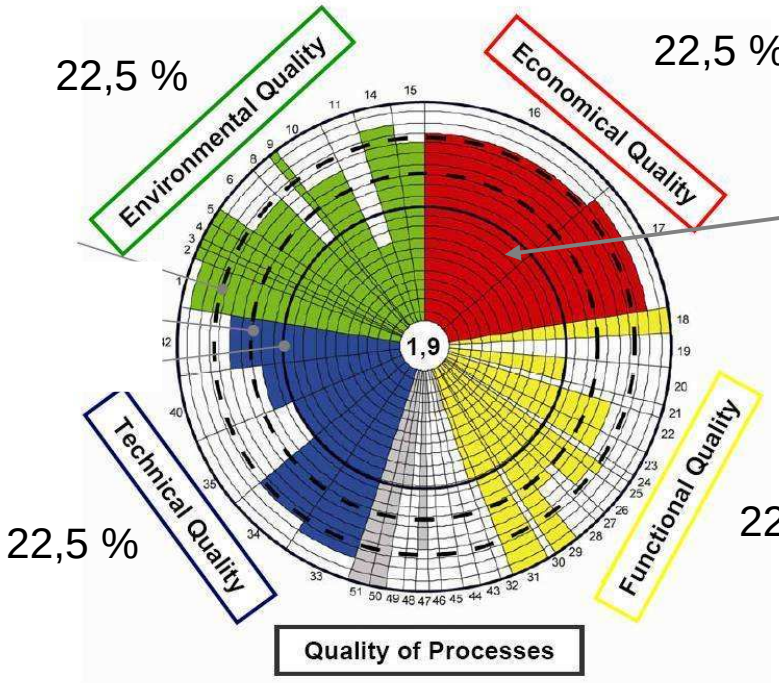
Weighting



1	Treibhauspotenzial (GWP)	3,5%
2	Ozonschichtzerstörungspotenzial (ODP)	0,6%
3	Ozonbildungspotenzial (POCP)	0,6%
4	Versauerungspotenzial (AP)	1,2%
5	Überdüngungspotenzial (EP)	1,2%
6	Risiken für die lokale Umwelt	3,5%
8	Sonstige Wirkungen auf die globale Umwelt	1,2%
9	Mikroklima	0,6%
10	Primärenergiebedarf nicht erneuerbar (PE_{ne})	3,5%
11	Primärenergiebedarf erneuerbar, (PE_e)	2,3%
14	Frischwasserverbrauch Nutzungsphase	2,3%
15	Flächeninanspruchnahme	2,3%
16	Lebenszykluskosten	13,5%
17	Wertstabilität	9,0%
18	Thermischer Komfort im Winter	1,6%
19	Thermischer Komfort im Sommer	2,4%
20	Innenraumluftqualität	2,4%
21	Akustischer Komfort	0,8%
22	Visueller Komfort	2,4%
23	Einflussnahme des Nutzers	1,6%
24	Gebäudebezogene Außenraumqualität	0,8%
25	Sicherheit und Störfallrisiken	0,8%
26	Barrierefreiheit	1,6%
27	Flächeneffizienz	0,8%
28	Umnutzungsfähigkeit	1,6%
29	Öffentliche Zugänglichkeit	1,6%
30	Fahrradkomfort	0,8%
31	Sicherung der gestalterischen Qualität	2,4%
32	Kunst am Bau	0,8%
33	Brandschutz	4,5%
34	Schallschutz	4,5%
35	Qualität der Gebäudehülle	4,5%
40	Reinigungs- und Instandhaltungsfreundlichkeit	4,5%
42	Rückbaubarkeit, Recyclingfreundlichkeit	4,5%
43	Qualität der Projektvorbereitung	1,3%
44	Integrale Planung	1,3%
45	Nachweis der Optimierung und Komplexität der	1,3%
46	Nachhaltigkeitsaspekte bei Ausschreibung und	0,9%
47	Voraussetzungen für eine optimale Nutzung	0,9%
48	Baustelle /Bauprozess	0,9%
49	Qualität der ausführenden Firmen /	0,9%
50	Qualitätssicherung der Bauausführung	1,3%
51	geordnete Inbetriebnahme	1,3%

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SB 16: Life Cycle Costs

- In terms of economic reasons […] the rating system assists in minimizing the life cycle costs of buildings.
- calculated aspects
  - design and construction costs (cost structure along the lines of eBKP-H)
  - selected operating expenses (miscellaneous)
  - discount rate (5%), rate of price increase (1-6%; statistics etc.)
  - tariff for thermal energy, electricity, water and gross wage per hour (statistics etc.)
  - over a period of 50 years
- results as „present value of defined costs“ per m² GFA
  (e.g. 3`600,- CHF / m² GFA best practice)
- calculation tool „life cycle costing in Facility Management“ (IFMA Switzerland, www.ifma.ch)

Thank you for your attention

Swiss Sustainable Building Council
Société Suisse pour un marché immobilier durable
Societa Svizzera per un mercato immobiliare sostenibile
Schweizer Gesellschaft für Nachhaltige Immobilienwirtschaft

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