New Portfolio-Rating-System based on LEVEL(S)

Presentation of the R&D project from the ZHAW (Zurich University of Applied Science) for the City of Zurich, Public Real Estate Management.

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Abstract

In Switzerland, there are currently no instruments for the holistic and easily applicable assessment of the sustainability of existing buildings, which can also be applied to larger real estate portfolios and which are structurally based on Swiss or European sustainability standards.

The instrument, developed as part of a ZHAW (Zurich University of Applied Science) R&D project for the City of Zurich, Public Real Estate Management, is based on the already existing LEVEL(S) criteria structure.

As distinguished from LEVEL(S), it can be applied to all types of buildings, including mixed buildings, and also scalable to larger portfolios of cities, banks, insurances or real estate investment funds.
We need to act NOW!

Swiss roadmap to 2000 Watt and 1to CO₂ Society

Intermediate Goal: 50% Reduction of fossil Energy by 2050

Q: www.2000watt.ch
Situation

• Various major portfolio holders want to know, **how** sustainable their buildings are.
• Existing ESG-reporting instruments such as GRESB are too limited.
• Specific sustainability certification systems are too extensive.

Primary focus on:
- energy consumption
- CO2 emissions
- water consumption
- waste
Benefits of portfolio analysis instruments

- Overview of the sustainability of the buildings
- Segmentation of the portfolio (identification of risk objects)
- Possibility of partial analysis
- Possibility for reporting (CSR or SDG’s)
- Decision basis for actions (planning)

Real Estate Portfolio → Analysis
Project Design

The structure of the R&D-project is divided into three phases.

Phase 1: System Development

Phase 2: Use of the evaluation tool

Phase 3: Monitoring & scientific evaluation

Presentation
General requirements

General requirements for the instrument:

- **Simple in use**, effective and cost-effective applicability
- **Flexible applicability** due to the heterogeneity of the objects
- **Holistic assessment** on all three dimensions of sustainability
- **Focus on relevant aspects**, central consideration of the climate topic
- **Performance-oriented** definition of the criteria
- **Scientifically referenced measurement methods**, criteria and indicators
- **Compatibility with international rating standards**
Positioning

CSR reporting instruments

Portfolio Rating

Sustainability assessment tools for buildings

public

private
Prioritization

Agenda 2030
SNE Strategy Sustainable Development
Cercle Indicateurs
2000 Watt Areas

SNBS    SIA 112/1    KBOB / IPB Guidelines

National

Portfolio Rating

International
(European Union)

CEN/TC 350 (EU sustainability standard)
LEVEL(S) Building Standard
International DGNB Building Standard

compatibility to GRESB (LEED)
Comparison - looking for a suitable base structure

Agenda 2030
SNE Strategy Sustainable Development

2000 Watt Areas
KBOB / IPB Guidelines
SIA 112/1
SNBS
GRESB
CEN/TC 350
SGNI / DGNB New Construction

Cercle Indicateurs
ESCI City Rating System
fut. CEN/TC 268/WG 2
LEVEL(S)
SMEO
GEFMA 160
DGNB Building In Use
LEVEL(S)

1. Greenhouse gas emissions throughout the life cycle of the building
2. Resource-efficient and cycle-oriented material cycles
3. Efficient use of water resources
4. Healthy and well-being promoting spaces
5. Adaptation to climate change and climate resilience
6. Life cycle costs
Base structure

Environment
- U1_Climate protection & energy
- U2_Material cycles
- U3_Nature & Landscape

Society
- G1_Health & Wellbeing
- G2_Safety & Accessibility
- G3_Quality of spaces & communication

Economy
- W1_Building performance
- W2_Building attractiveness
- W3_Building resilience
As a result, the developed set of criteria is in good agreement with LEVEL(S) but is designed for existing buildings rather than new buildings or existing buildings at the point of major renovation and complements the European LEVEL(S) system with the following criteria:

- Inclusion of mobility in the life cycle assessment
- Inclusion of Biodiversity issues
- Security & Accessibility
- Room Quality & Communication
- Building substance analysis
- Identity & Cultural Value
Criteria comparison with existing Swiss instruments

**SNBS (Swiss Standard for Sustainable Buildings)**

**KBOB/IPB Standard**
(Swiss Public & Private buildowner)

**SIA 112-1 (2017)**
(sustainable building construction)

Sustainable real estate management (2017)

Sustainable construction - building construction - standard of communication for SIA 112
### Criteria comparison with existing instruments

References to the **SGNI (DGNB) system**

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### SGNI/DGNB

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### New Rating Scheme

| ECO 1.1 | 18 Gebäudeschutz |
| ECO 1.2 | 19 Gebäudeschutz |  |
| ECO 1.3 | 20 Gebäudeschutz |  |
| ECO 1.4 | 21 Gebäudeschutz |  |
| ECO 1.5 | 22 Gebäudeschutz |  |
| ECO 1.6 | 23 Gebäudeschutz |  |
| ECO 1.7 | 24 Gebäudeschutz |  |
| ECO 1.8 | 25 Gebäudeschutz |  |
| ECO 1.9 | 26 Gebäudeschutz |  |

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SGNI / DGNB Life Cycle Approach

- **Project develop.**
  - Pre-certificate
    - New construction

- **Planning Construction**
  - Certificate
    - New construction

- **Exploitation**
  - Certificate
    - Building in Use

- **Modernization**
  - Certificate
    - Renovation

- **Portfolio Analysis**
  - Not part of the SGNI/DGNB certification!

- **Building Analysis**

- **Optimization of Operation & Maintainance**

- **Optimization the Building**
First findings from the practical application

- Criteria are generally applicable to all types of buildings
- The handling of building ensembles needs to be defined more precisely
- Coordination with existing databases and GIS systems is important
- For energy / CO₂ and mobility, simplified calculation methods have to be developed
- To enter the large amount of relevant information simplifications are required
Thank you for your attention!

Interest in collaboration?

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