

# The Swiss Landscape of Environmental Information in the Construction Sector

57<sup>th</sup> LCA Discussion Forum

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# Overview

## Topic

General Introduction

Certification Schemes and Standards used in Switzerland

LCA in Certification Schemes and Standards

Questions



# General Introduction

Mit Gebäudelabels können mehrere Ziele erreicht werden. Als erstes muss ein Gebäude die Anforderungen des Labels erfüllen, und meist ist dies nur mit zusätzlichen Anstrengungen möglich. Das heisst, dass ein gelabeltes Gebäude – zumindest theoretisch – eine höhere Qualität als ein nicht gelabeltes Pendant aufweist. Als zweites umfasst ein Gebäudelabel eine Qualitätssicherung. Die vom Antragsteller gemachten Angaben werden durch eine unabhängige Stelle überprüft, und bei vielen Labels erfolgt eine Kontrolle vor Ort. Auch dies führt zu einer höheren Qualität des gelabelten Gebäudes – diesmal auch in der Praxis – und entlastet die Bauherrschaft oder seine Beauftragten von Qualitätssicherungsmassnahmen, die sie sonst selbst ergreifen müssten. Als drittes ist ein Label ein Kommunikationsinstrument, das erlaubt, die komplizierten Anforderungen des Labels bzw. Eigenschaften des Gebäudes auf einfache Weise zu kommunizieren. Für den Antragsteller besteht darin meist der grösste Anreiz, weil er damit einerseits seine Vorbildfunktion nach Aussen zeigen kann (dazu muss das Label aber sowohl einen gewissen Bekanntheitsgrad als auch eine gewisse Verlässlichkeit aufweisen, da es sonst von seinen Anspruchsgruppen als wertlos empfunden wird). Andererseits kann die Wahrnehmung des Labels am Markt zu einem höheren Verkaufspreis oder höheren Mieteinnahmen führen, weil dem Label ein Wert beigemessen wird.

# MINER GIE-ECO

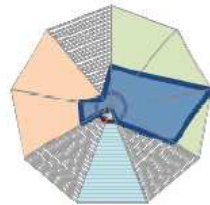


# Label-Salad is ready – enjoy your meal

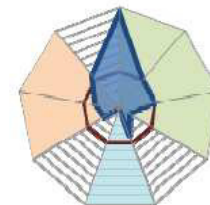


# Same Goal, different Methods

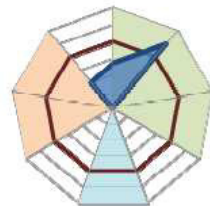
SmeO



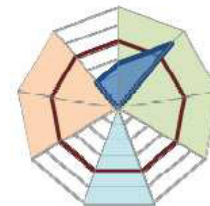
DGNB / BNB /  
SGNI



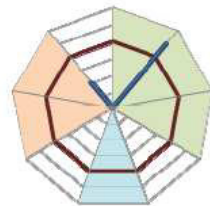
Minergie / -P / -A



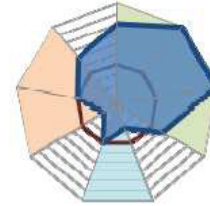
ECO (Minergie- /  
-P- / -A-)



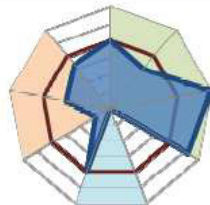
Passivhaus



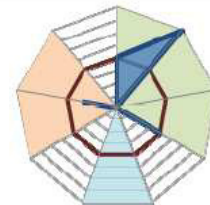
BREEAM



LEED



SIA-Effizienzpfad  
Energie



## Why Certifying

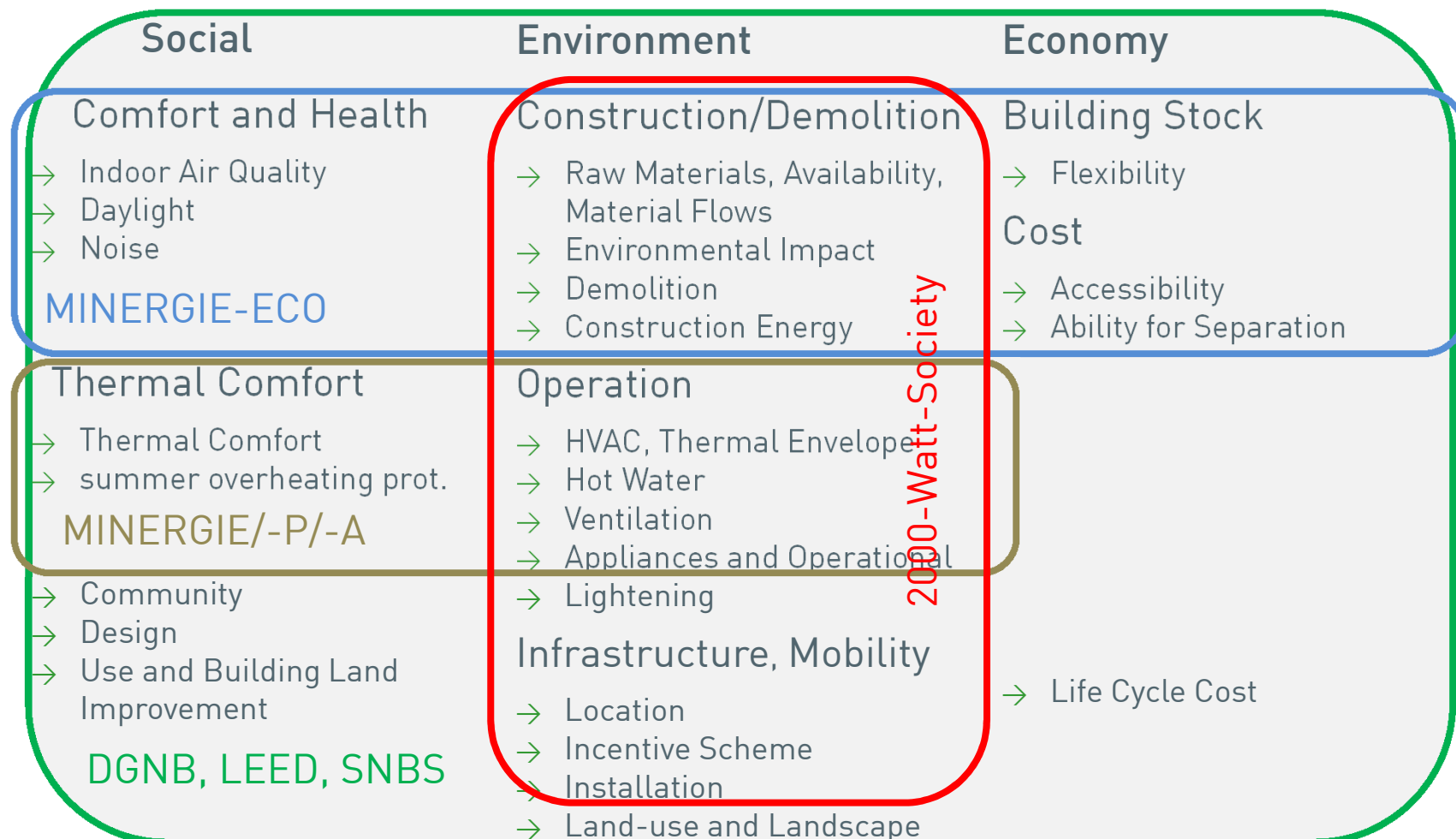
- A certificate represents a proof of the fulfilment of the label criteria.
- An independent quality control leads to higher quality.
- A certificate can positively influence the price in case of selling (Minergie: + 7%).
- Based on several studies the productivity of the user in certified building is higher and the number of staff away sick is lower.
- Many financing institutes offer lower interest rates for certified buildings.
- Certified buildings have a positive influence on the image of the owners and planners.
- For GRI Sustainability Reporting the certificates are part of the reporting.

# Certification Schemes and Standards used in Switzerland





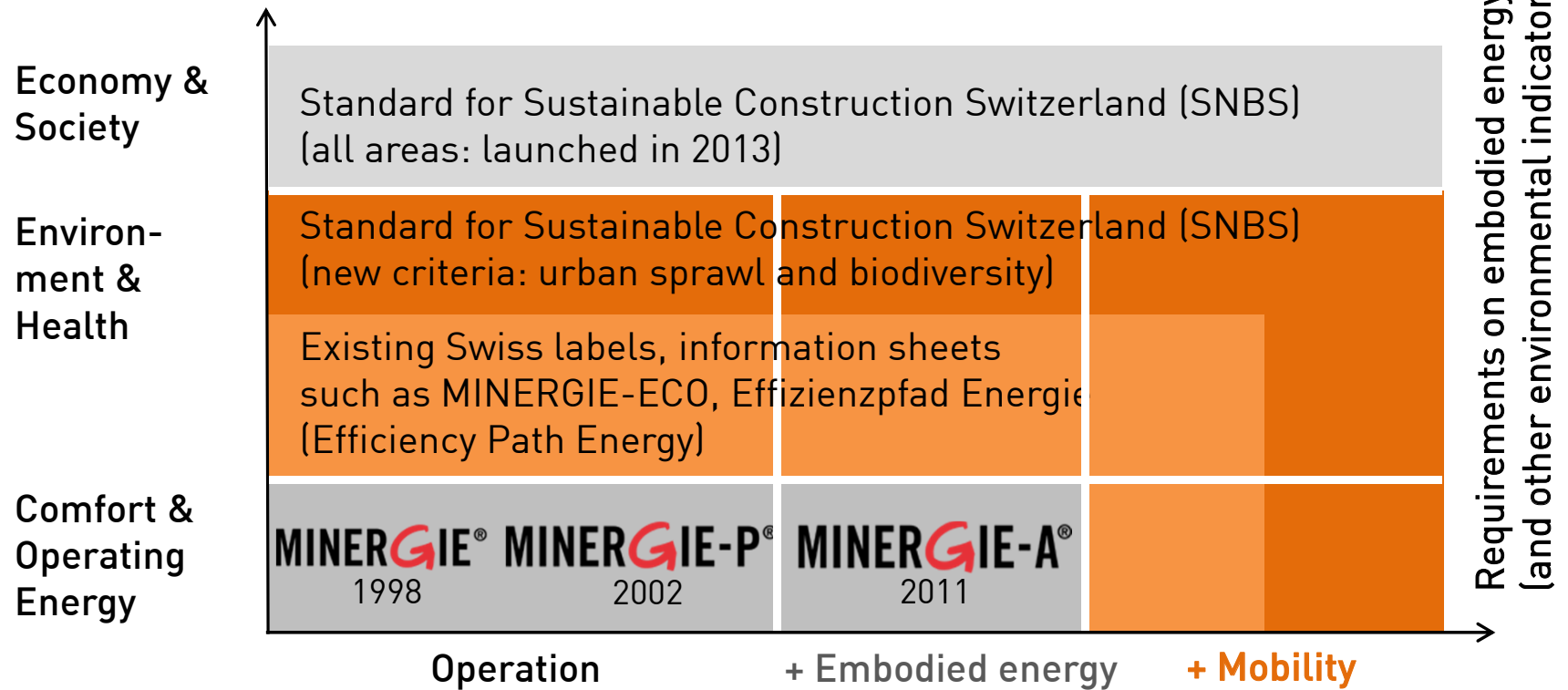
# Building Certification Schemes





# From MINERGIE to SNBS (?)

Level of Sustainability





Standard Nachhaltiges Bauen Schweiz  
 Standard Construction durable Suisse  
 Standard Costruzione Sostenibile Svizzera  
 Sustainable Construction Standard Switzerland

# Standard for Sustainable Construction

## Content and Structure

→ 3 Areas

→ 12 Subjects

→ 25 Criteria

→ 78 Indicators

→ Requirements/  
Specifications

### SOCIETY



CONTEXT AND  
ARCHITECTURE



PLANNING AND  
TARGET GROUPS



UTILISATION AND  
LAND-USE PLANNING



COMFORT AND  
HEALTH

### ECONOMY



COSTS



TRADEABILITY



EARNINGS  
POTENTIAL



REGIONAL  
ECONOMY

### ENVIRONMENT



ENERGY



CLIMATE



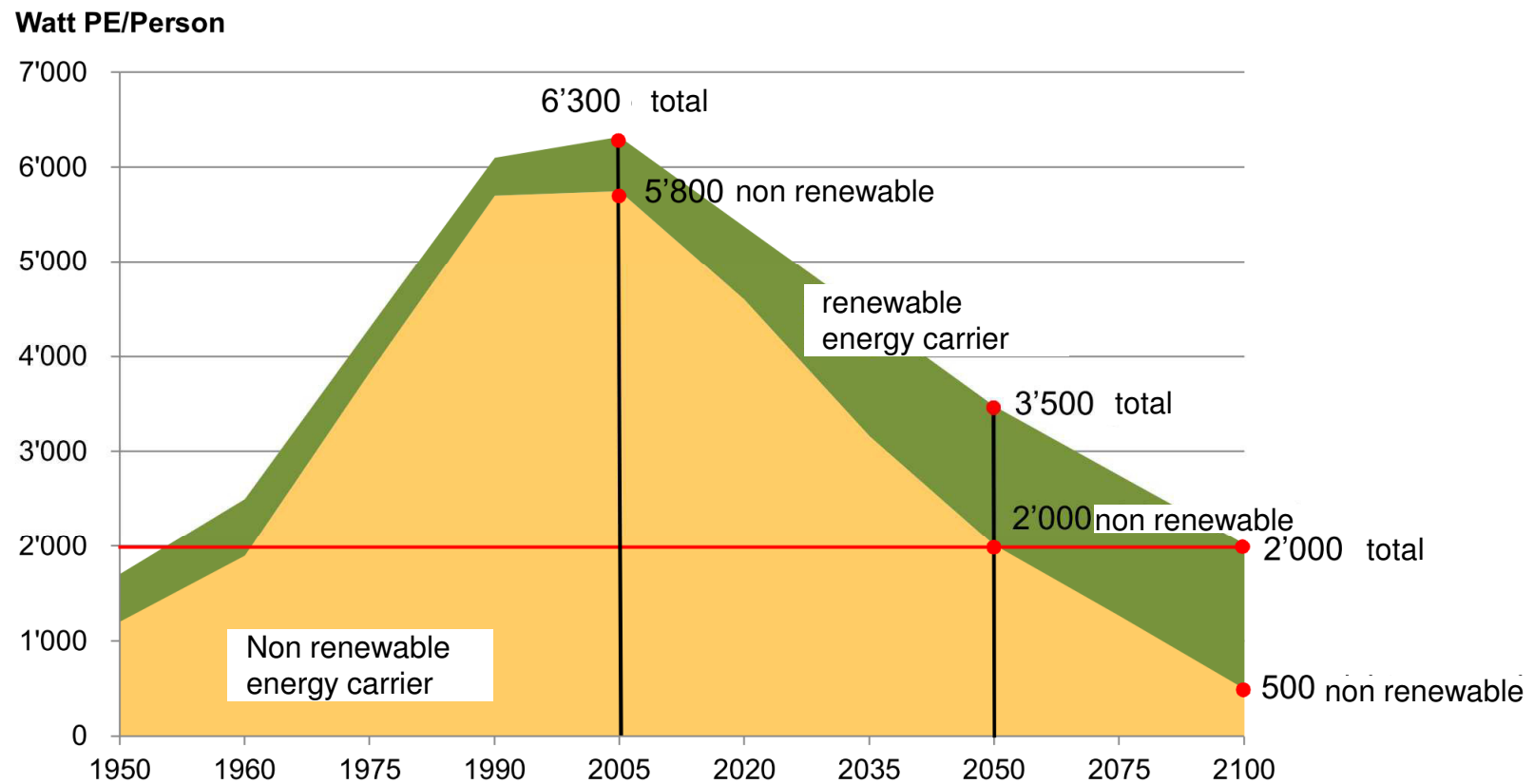
RESSOURCES- AND  
ENVIRONMENTAL  
PROTECTION



NATURE AND  
LANDSCAPE

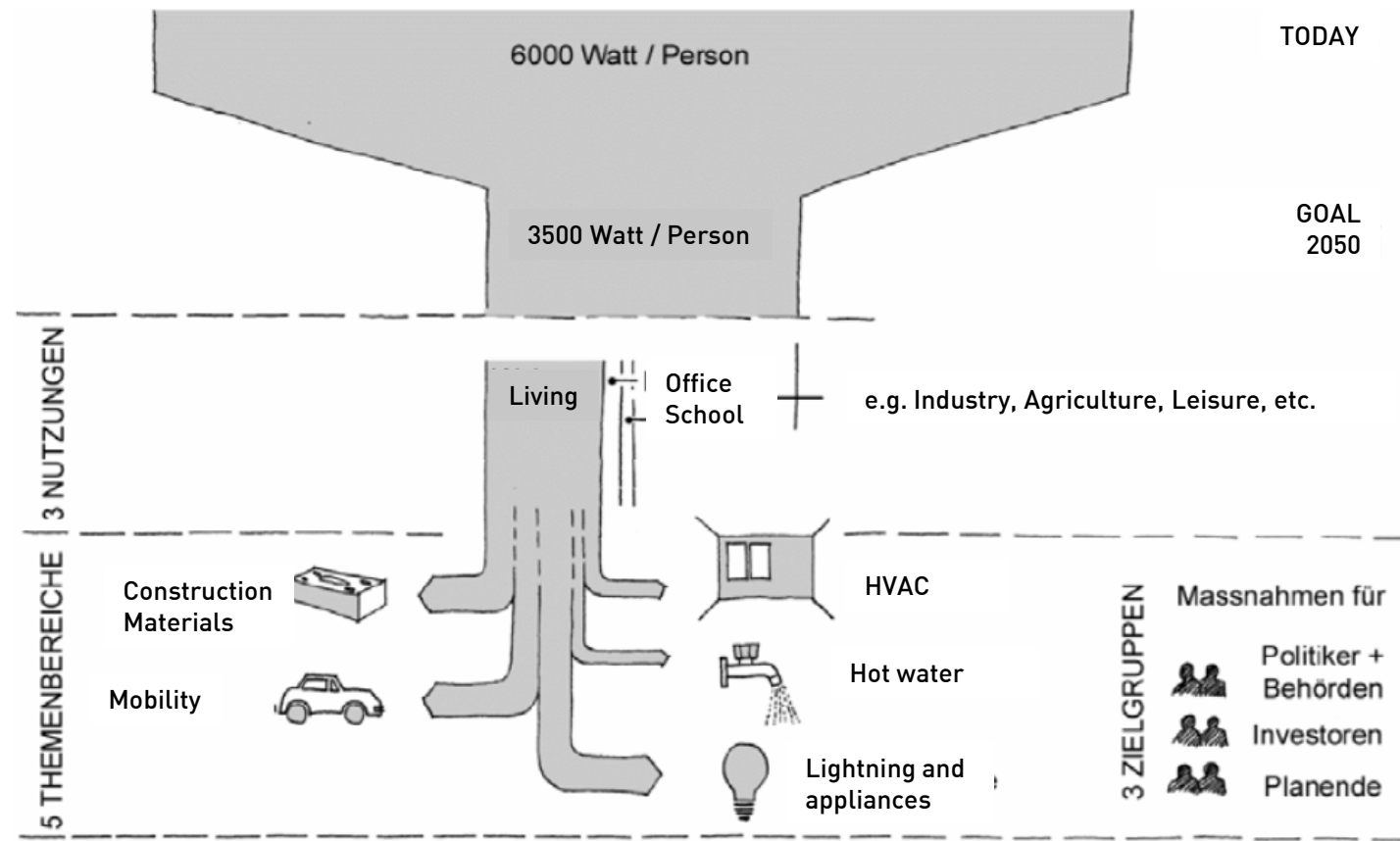
Areas and Subjects of SNBS

## 2000-Watt- (1t-CO<sub>2</sub>-) Society



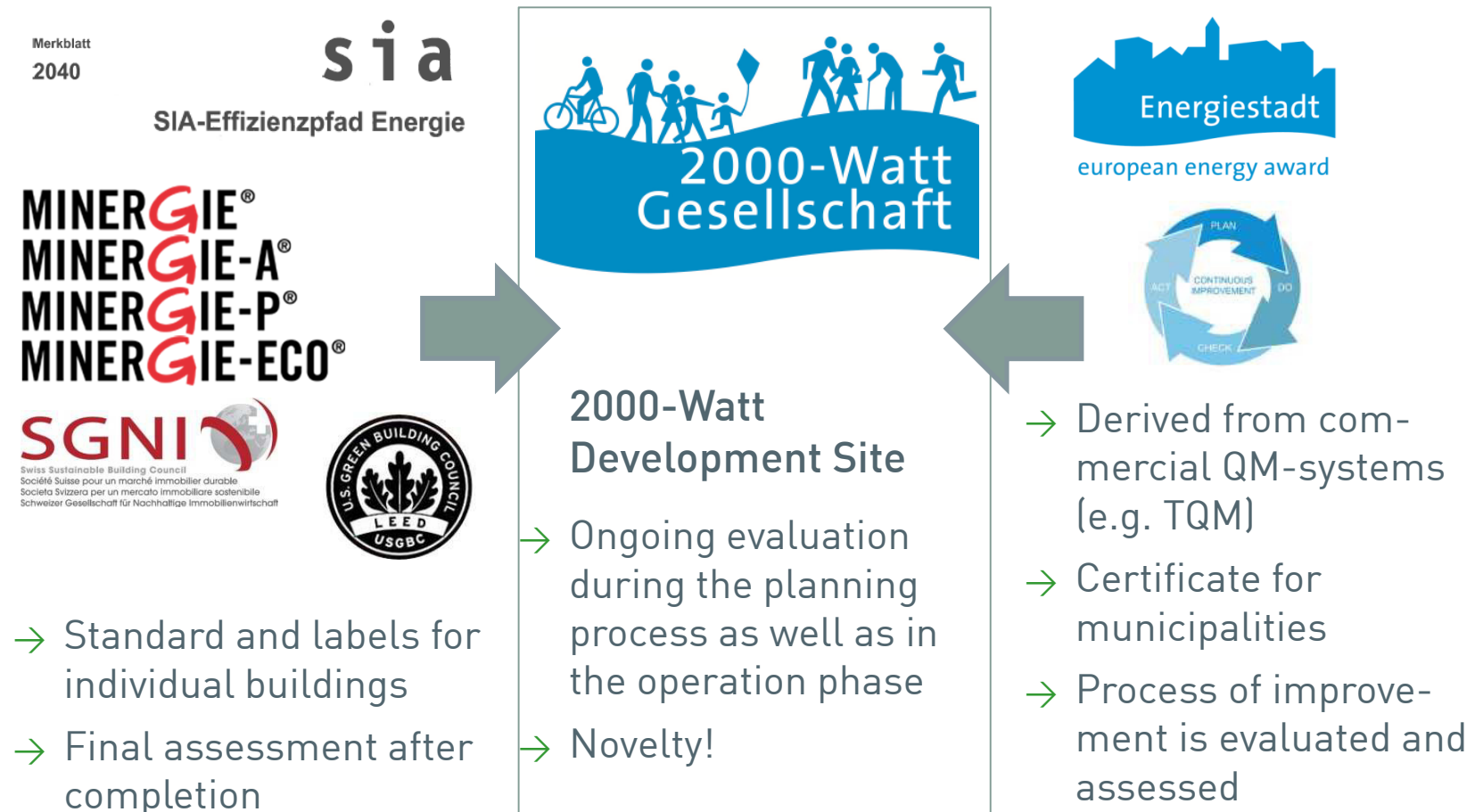
Required development of Primary Energy to fulfill the 2000-Watt-Society Goals

# SIA Energy Path of Efficiency (SIA Guideline 2040)



Transformation of «per capita» goals to «per m<sup>2</sup> of use» goals

# 2000-Watt Development Site



# Elements of the Assessment



## Quantitative Assessment

Indicators:

- Total primary energy
- Primary energy non-renewable
- Greenhouse gas emissions

Considered:

- Construction of the building
- Operation of the building
- Building-induced mobility

Calculation tool

- Project value
- Target value (based on uses)

## Qualitative Assessment

List of criteria grouped in following topics:

- Management system
- Communication and cooperation
- Construction and operation
- Disposal
- Mobility

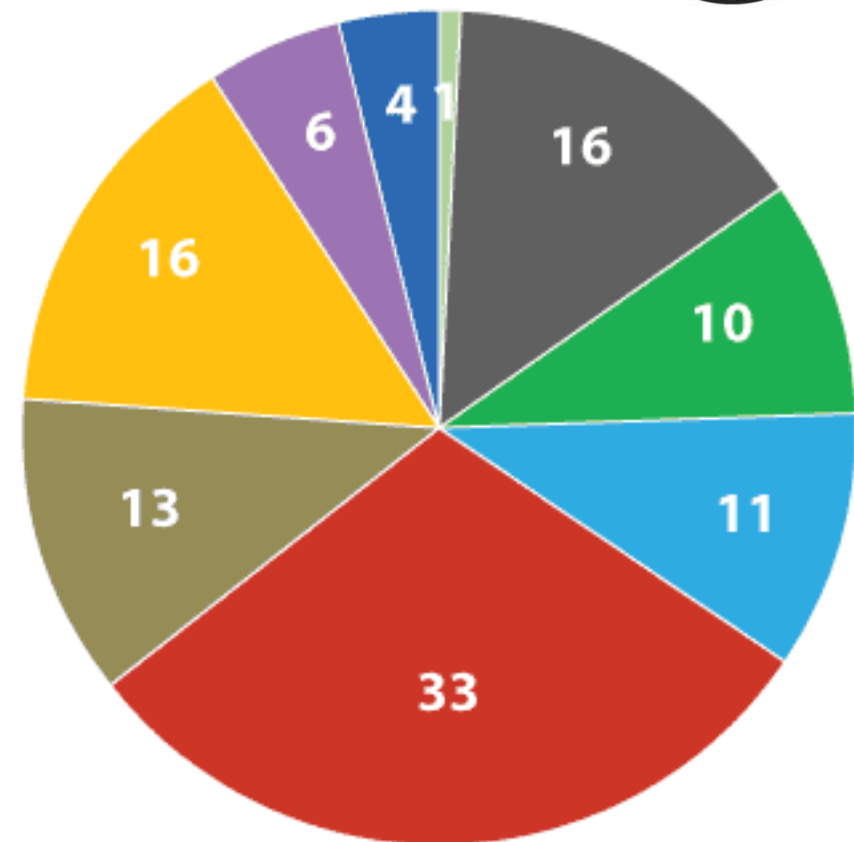
# Categories in LEED V4



## LCA in LEED V4

- Credit “Building Life Cycle Impact Reduction”
- Credit “Building Product Disclosure and Optimization – Environmental Product Declarations”

- Location and Transportation
- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation
- Regional Priority
- Integrative Process



LEED Categories and Maximum Credit Points



# DGNB sustainability concept



The DGNB System is broadly based and goes beyond the 3-pillar model. It covers all key aspects of a sustainable building:

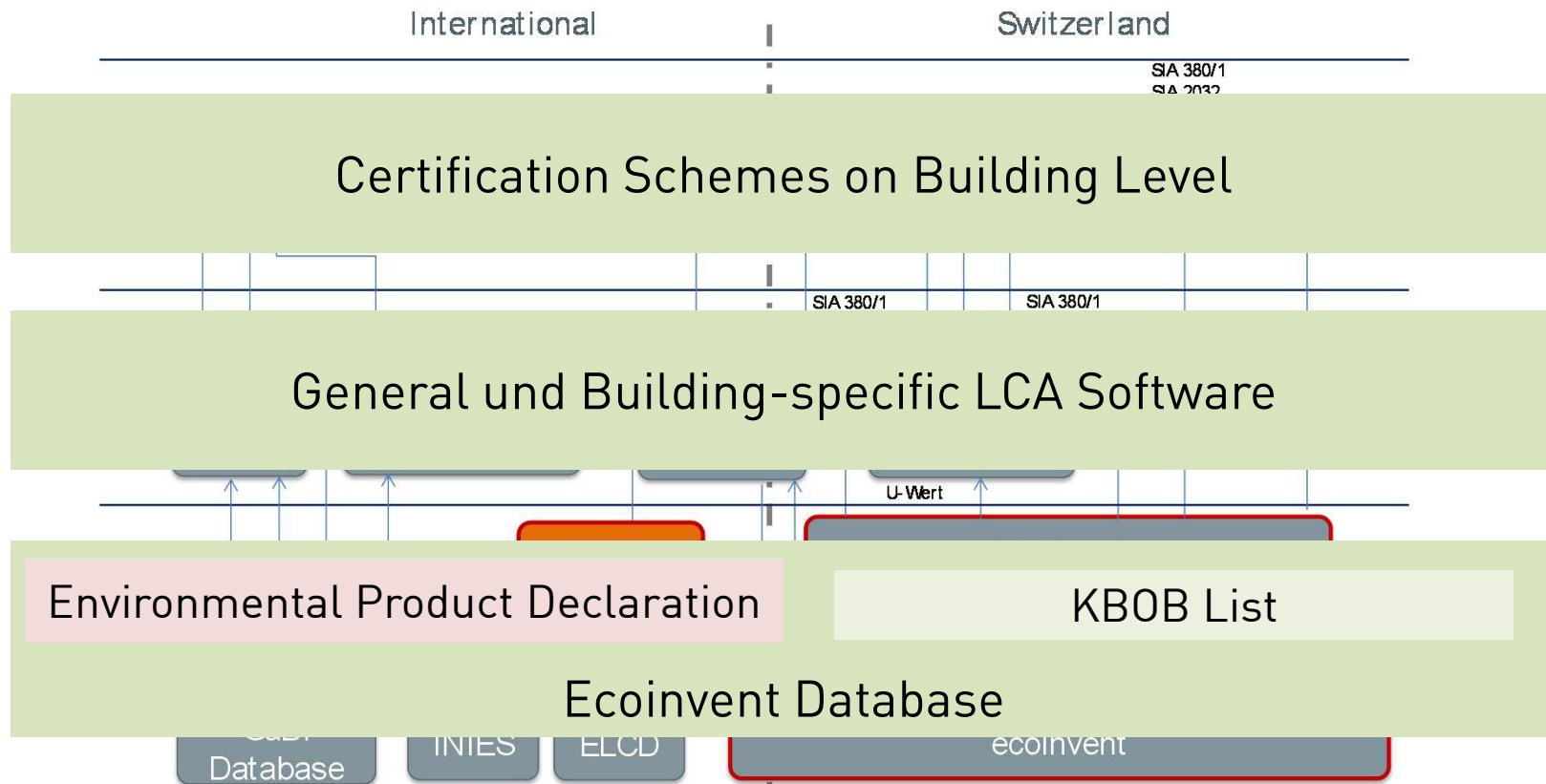
1. environmental 
2. economic 
3. sociocultural and functional aspects 
4. technology 
5. processes 
6. site 

- The first 4 quality sections have equal weight in the assessment
- DGNB System gives as much importance to the economic aspect of sustainable building as it does to the ecological criteria.
- The assessments are always based on the entire life cycle of a building.

# LCA in Swiss Labels and Standards

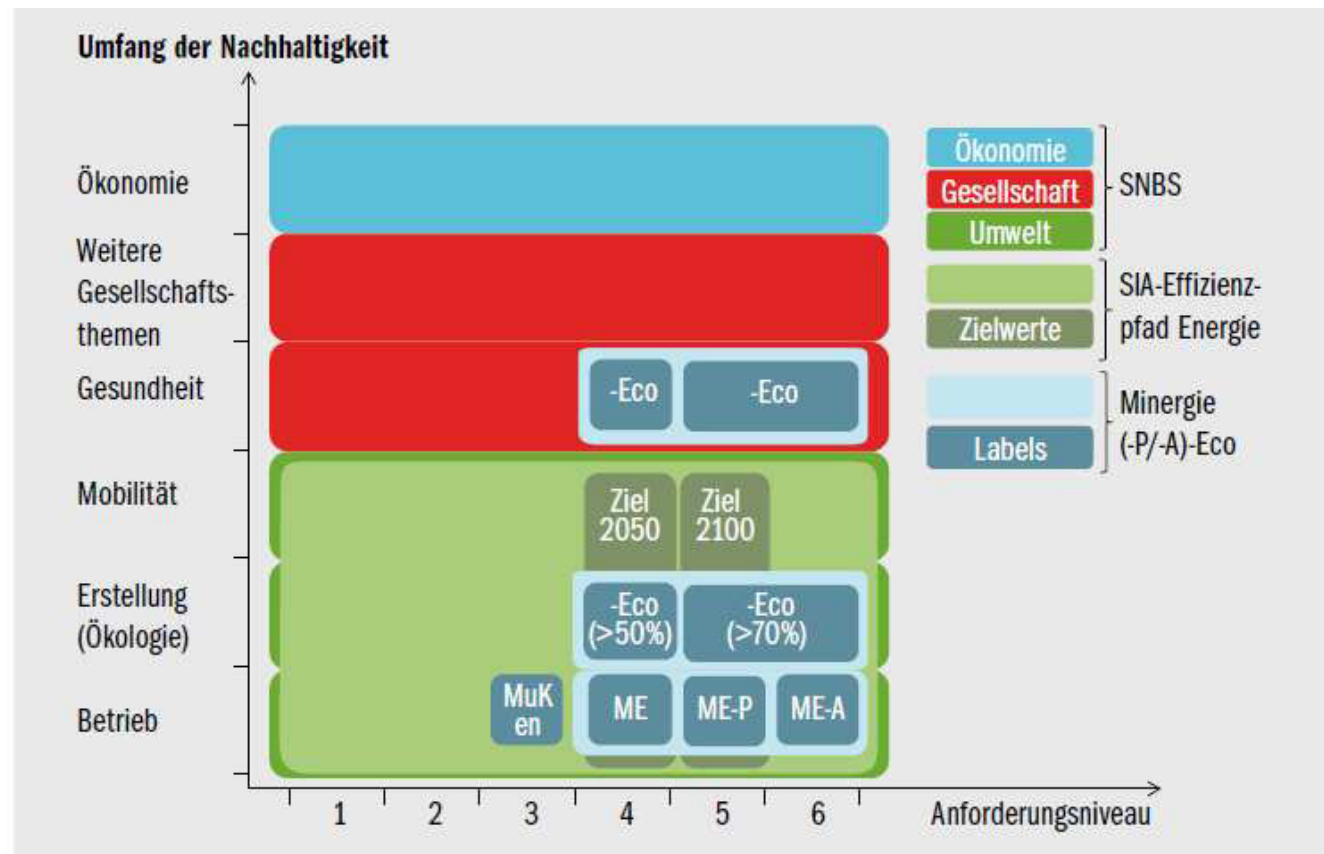


# LCA in Swiss Labels and Standards (1/2)



Today's Situation in Switzerland regarding the use of LCA/EPDs in Certification Schemes

## LCA in Swiss Labels and Standards (2/2)



Source: Kellenberger, 2014, Faktor Verlag

Label requirements and threshold values for Swiss Labels and Standards

Questions ?

