

Diffusion Dynamics of Energy Efficient Buildings (DeeB)

Simulation of the dynamic interactions between relevant actors' managerial learning, technological innovations, and public policy

Ruth Kaufmann-Hayoz, Susanne Bruppacher, Silvia Ulli-Beer
Interdisciplinary Centre for General Ecology (IKAÖ)

Contact: [bruppacher @ ikaoe.unibe.ch](mailto:bruppacher@ikaoe.unibe.ch)

Partners:

University of St. Gallen (M. Schwaninger)
City of Langenthal (H.J.Käser, V.Gmür, R.Leuenberger)

International Cooperation:

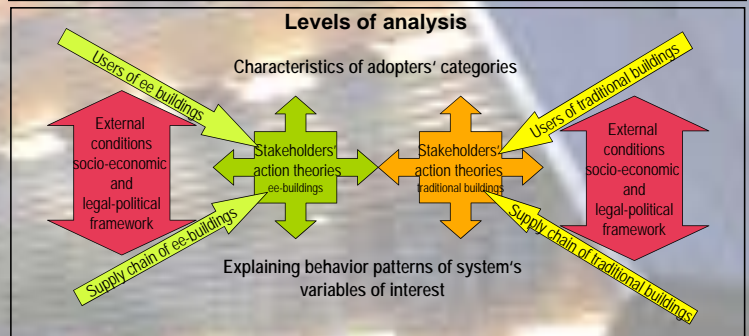
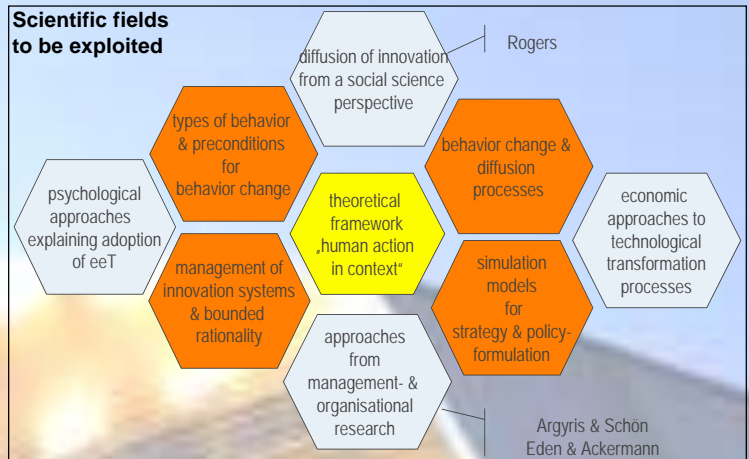
University of Albany, USA (D.F.Andersen, G.P.Richardson)
Strathclyde University, UK (F.Ackermann)

Objectives

- Analyzing and accelerating managerial and organizational adaptation processes that foster the diffusion of pioneering energy efficient technologies in the building sector.
- Identifying the main determinants of key actors' behaviors that chart the course toward energy efficient or non-energy efficient construction.
- Synthesizing psychological, managerial, and economic theories as well as the results of empirical investigations into a simulation model for a middle-sized Swiss city.

Approach

- 3 to 4 recently constructed reference buildings that differ in their energy efficiency standard are selected. An expert group is formed which comprises the actors involved in the reference buildings' construction, the regional energy consultant, and representatives of the authorities.
- Two models are developed and tested:
 - a (static) model of the behavioral antecedents of the actors' key choices,
 - a (dynamic) building stock simulation model.



Project Road Map

By means of several workshops the expert group actively contributes to the model building process. This process is a stepwise procedure involving phases of literature review, empirical data collection, and model conceptualization.

Expected Results

Based on the insights from policy analyses and scenario experiments a transformation support tool for energy efficient buildings will be elaborated.

This product will provide private and public decision-makers in the building sector with promising strategies and management instruments for long-term organizational development pathways.

