



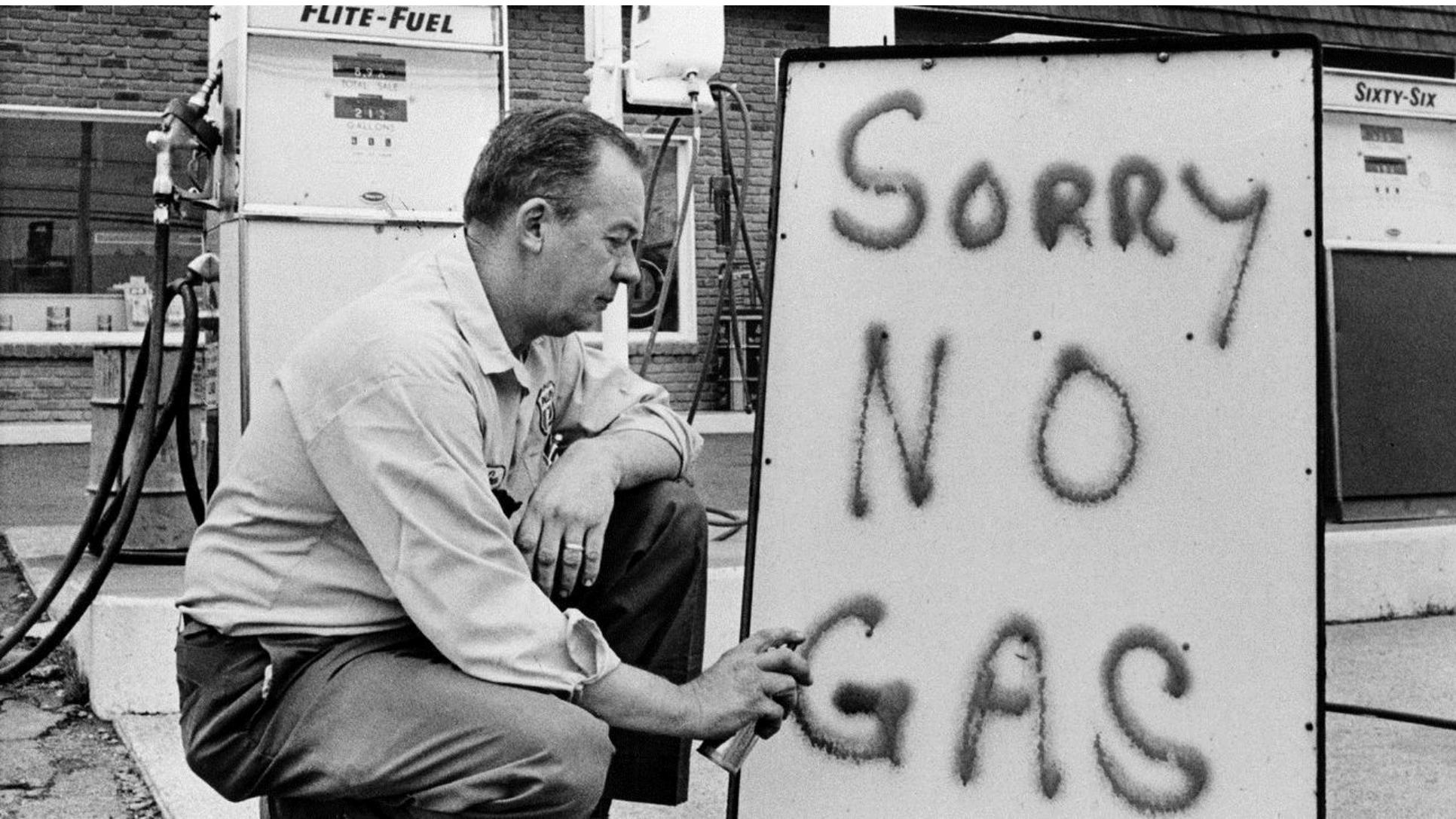
# Towards a Holistic Methodology: A Practical Approach to Local Energy Planning

Dr. Thomas Schluck<sup>1</sup> and Prof. Matthias Sulzer<sup>2</sup>

<sup>1</sup>University of Applied Sciences Lucerne, Switzerland

<sup>2</sup>Empa – Swiss Federal Institute for Materials Science and  
Technology, Switzerland

# The oil crisis – the birth of «energy politics»





Organisers:



International Co-owners:



“Energy conservation – our best energy source.”

– German Federal Ministry of Economics, 1974



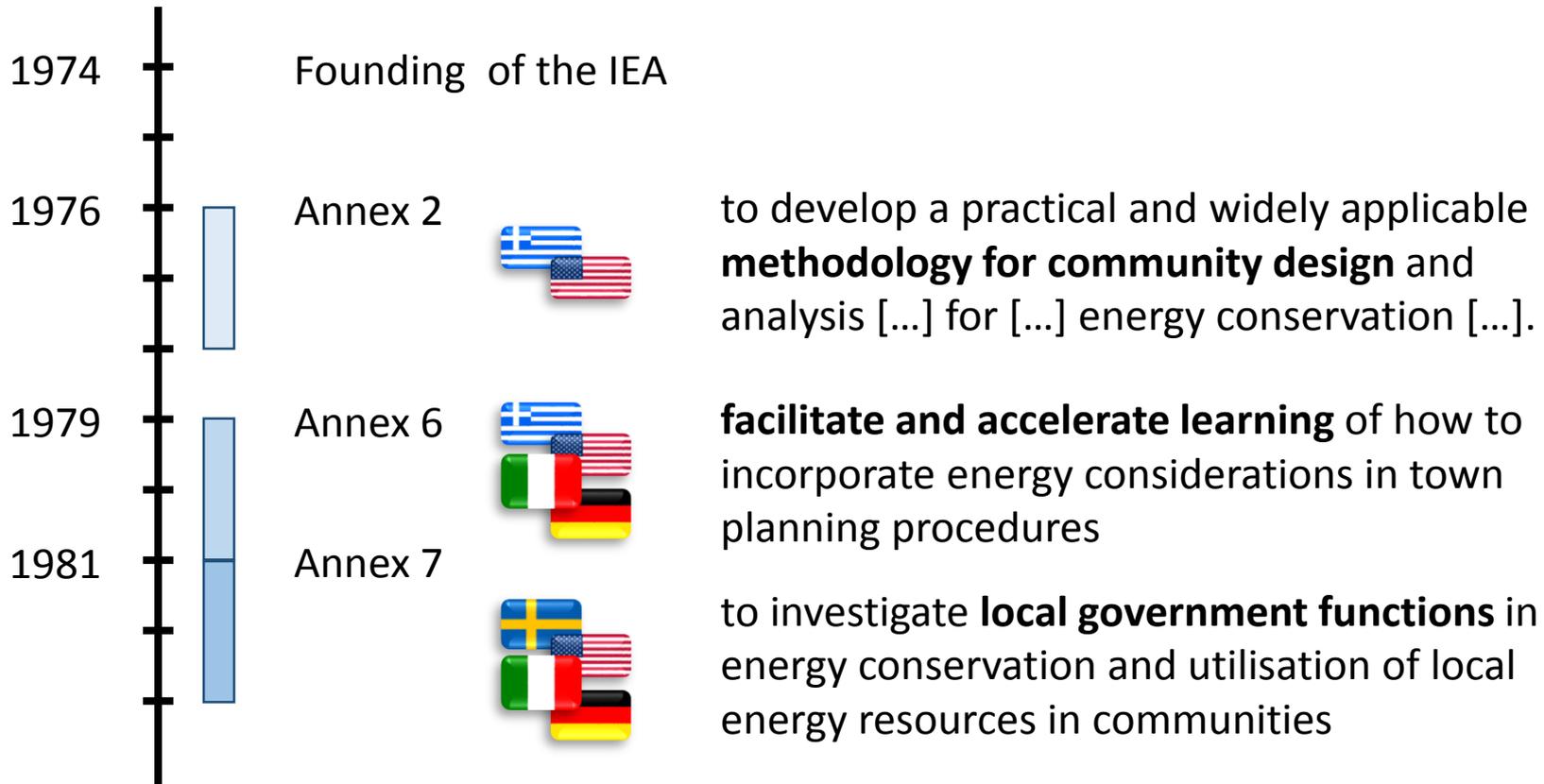
Organisers:



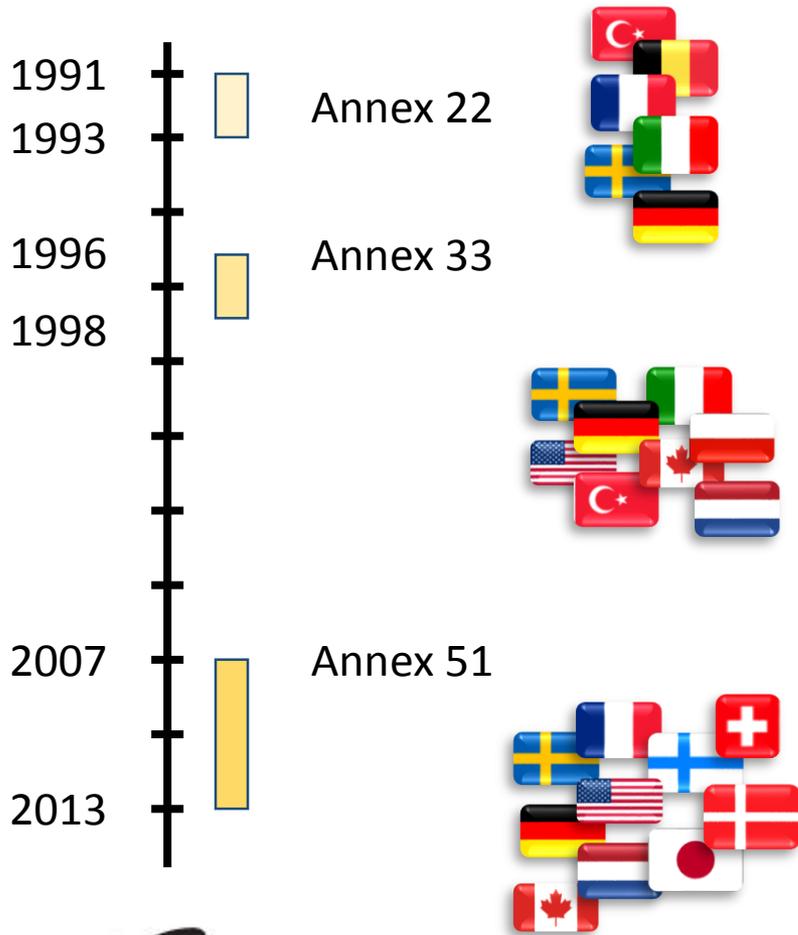
International Co-owners:



# From energy conservation...



# ... to environmental protection



**Review** on available approaches for  
**LEP – Local Energy Planning**

**ALEP – Advanced Local Energy Planning:**  
“...practical **application** [...] of tools and models of **modern systems analysis** for the description of complex municipal energy systems.”

**MLEP/NLEP – Municipal and neighbourhood LEP**

“...design of [...] energy conservation and greenhouse gas (GHG) mitigation strategies [...] on a **community level** or [...] of a **municipal quarter**.”



Organisers:



International Co-owners:



6, 29.06.2017

# Annex 51

The different case studies revealed...

“...technical barriers were not the bottleneck, but [...] **initiating and steering the transition process** is the real problem [...]”

- lack of access to relevant knowledge
- missing management structures and personal capacities
- lack of sustained commitment of important stakeholders

## Dissemination through empowerment



Organisers:



International Co-owners:



Sustainable Buildings and Climate Initiative  
Promoting Policies and Practices for Sustainability



Global Alliance  
for Buildings and  
Construction

# „Empower us!“



Municipality  
Wohlen

 **BKW**

Lucerne  
University

Develop a energy-concept **and** methodology for a **later roll-out** in other areas and communities!



Organisers:



International Co-owners:



# Method should be...

- Based on **Systems Thinking**
- **Modular** and **flexible** in design
- Frame and **guidance** in development process
- A solution approach NOT a management approach
- **Prescriptive** in general design, **descriptive** in subunits
- **Neutral** – divide WHAT from HOW



Organisers:



International Co-owners:

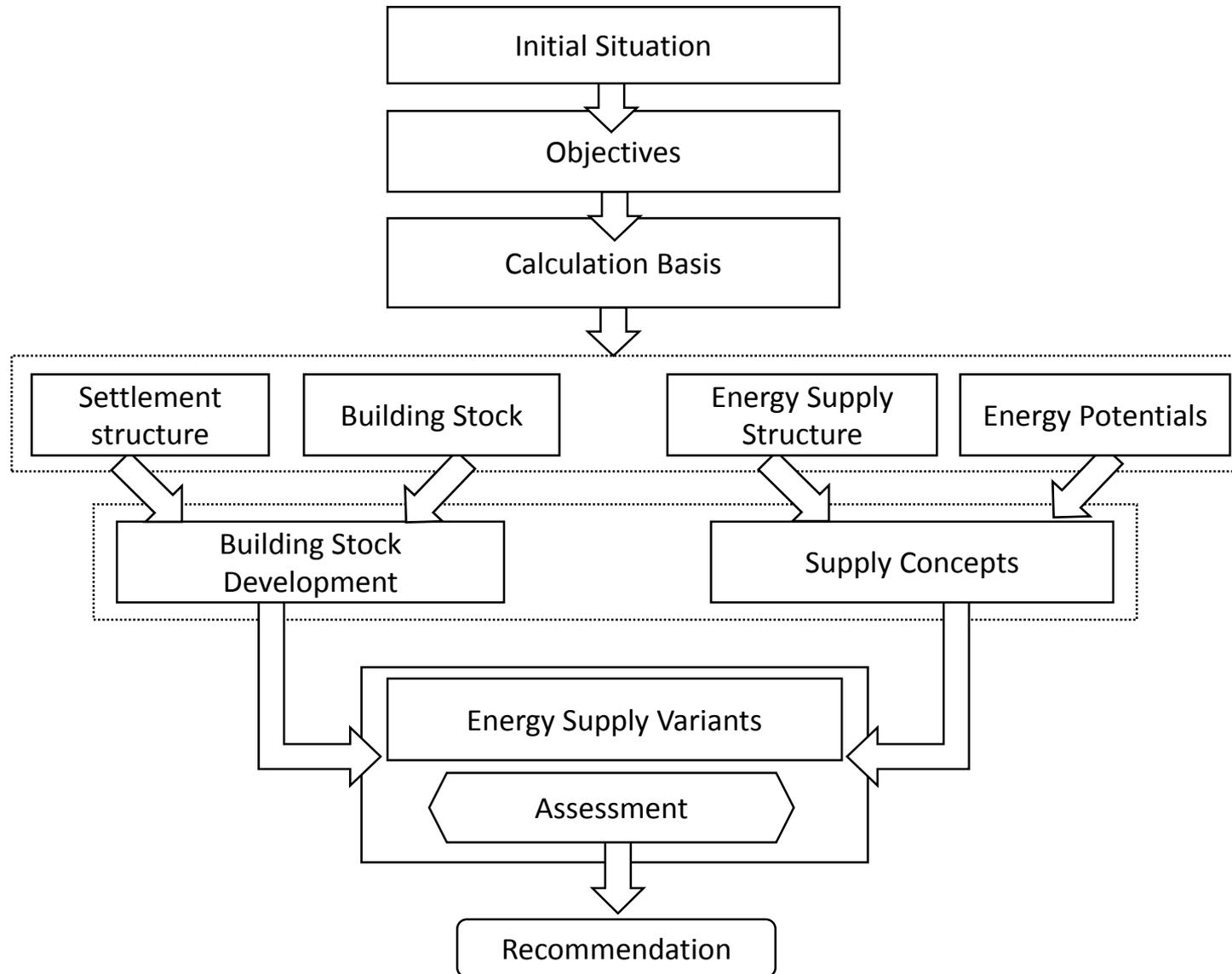


Sustainable Buildings and Climate Initiative  
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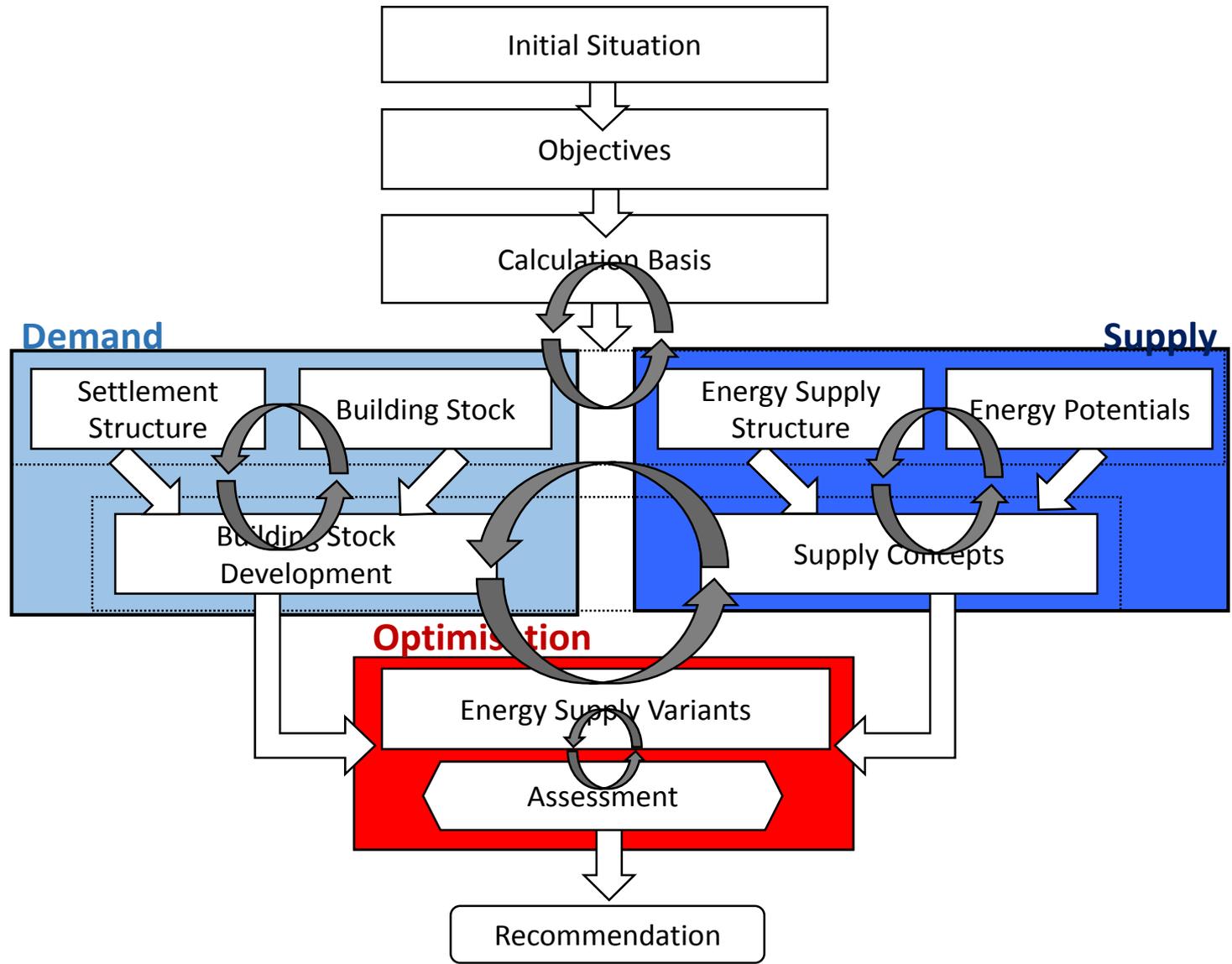


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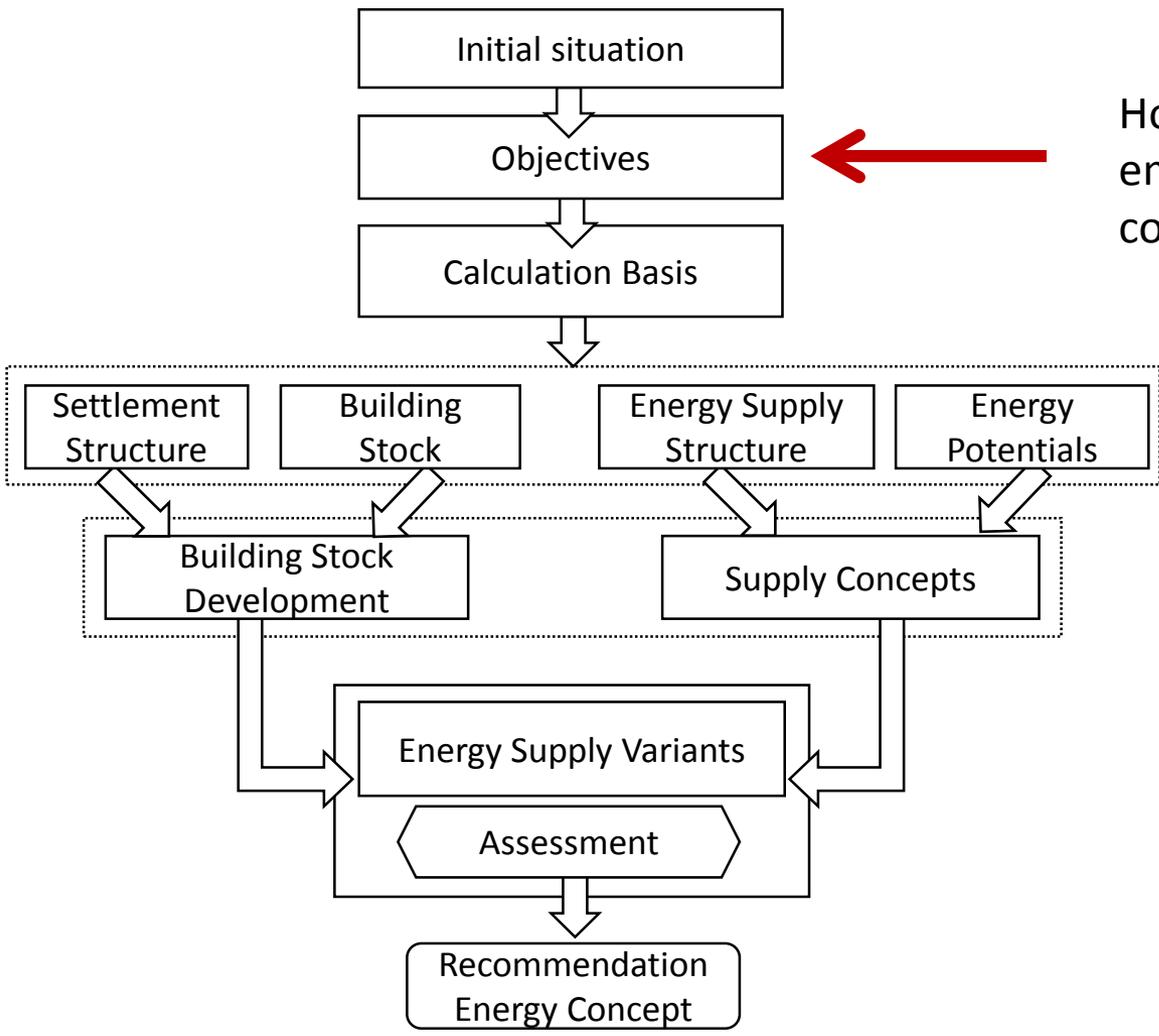
# Core Module



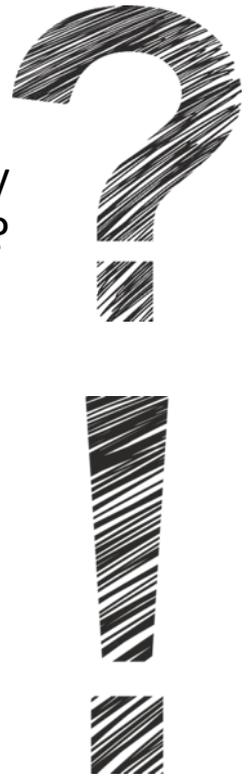
# Tools



# Continuous Assessment



How to reduce GHG-emissions, primary energy consumption (tot/n.e.)... ?



THG-emissions, primary energy (tot/n.e.)...

**Derived indicators**

# In overview...

- Developing a **modular** method
- **Core** Module presented
- Based on **System Thinking** and Generic Systems Engineering
- Focus on **dissemination** through empowerment
- Developed and **applied** on a real case.



Organisers:



International Co-owners:



# Outlook

- **Optimisation** approaches
  - Sophisticated tools (ML, AI) to cope with complexity
  - Tools support, do NOT lead the design process
- Test and refine the method on further cases
- Further modules:
  - **Stakeholder interaction** modelling and analysis
  - **Performance measurement** (Advanced assessment)
- **Expand over entire value chain**



Organisers:



International Co-owners:

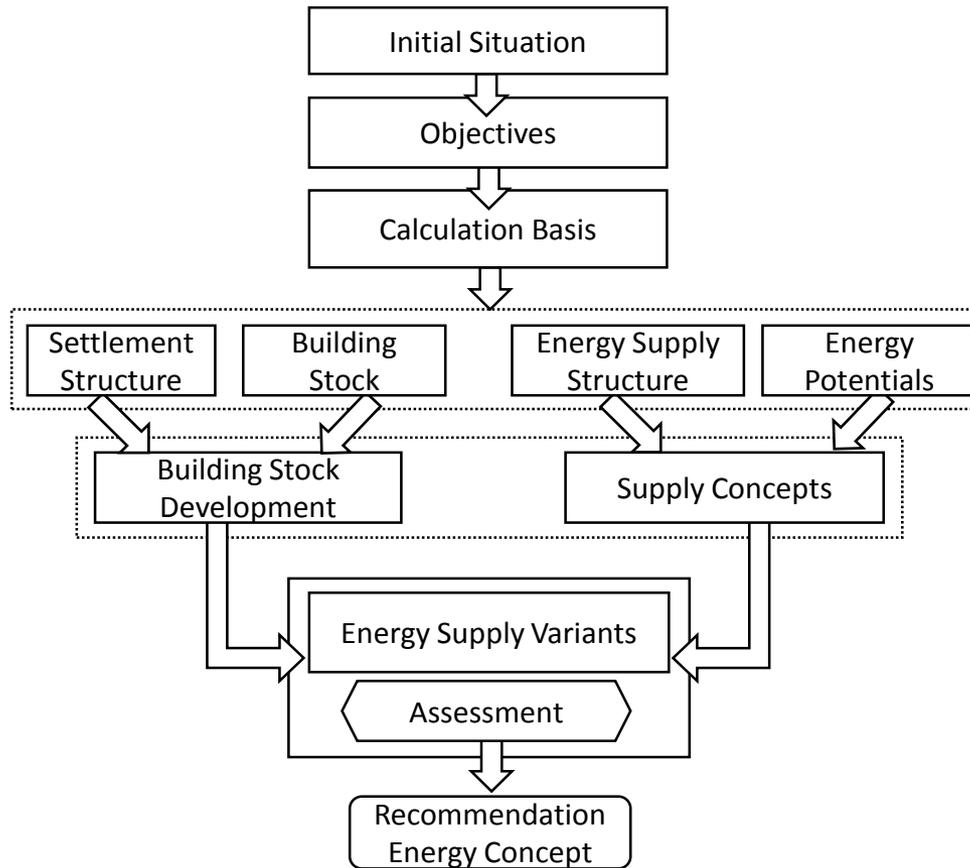


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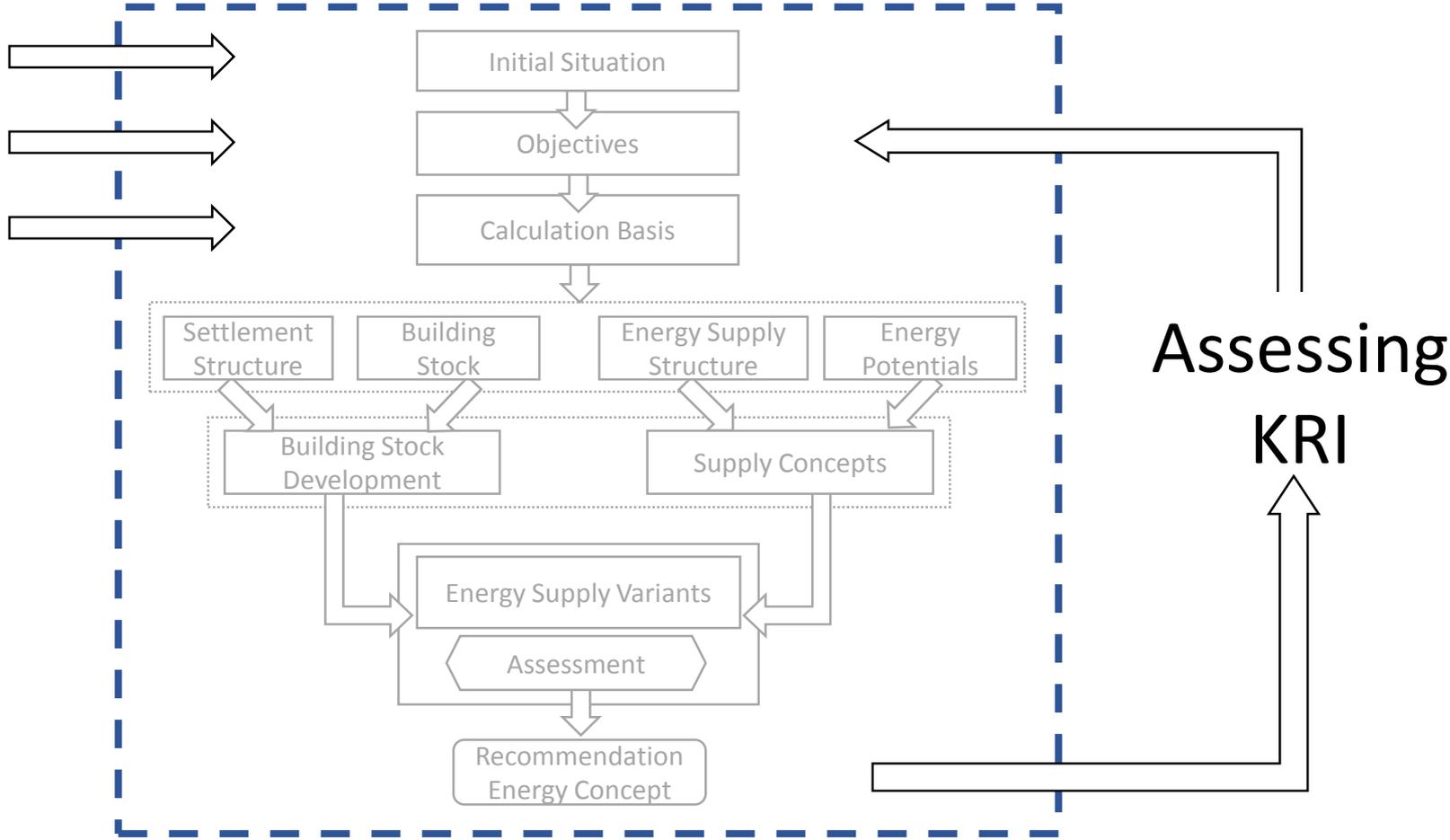


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Construction

# Closing the loop



# Closing the loop





sccer | future energy efficient  
buildings & districts

# Thank you!

In cooperation with the CTI



**Energy funding programme**

Swiss Competence Centers for Energy Research



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Confédération suisse  
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