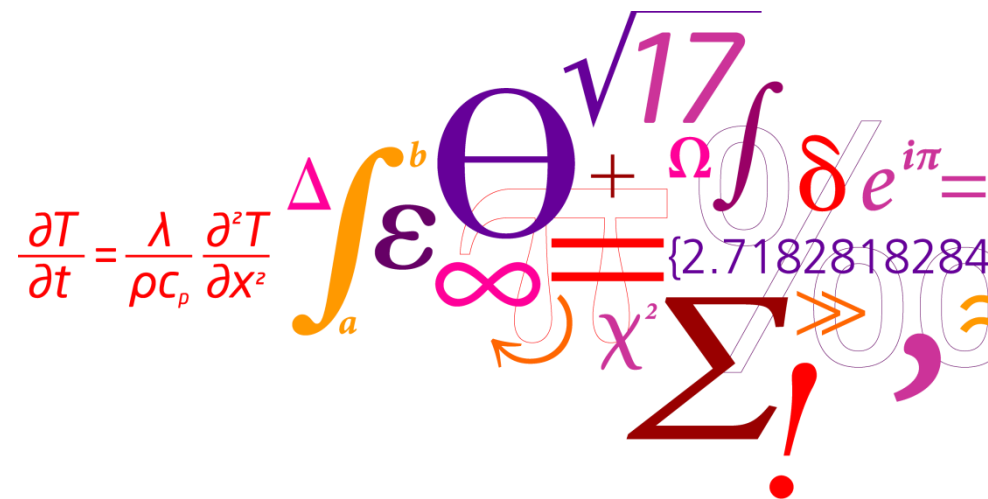


Assessment and Optimization Methods for Implementation of Energy Strategies in Communities

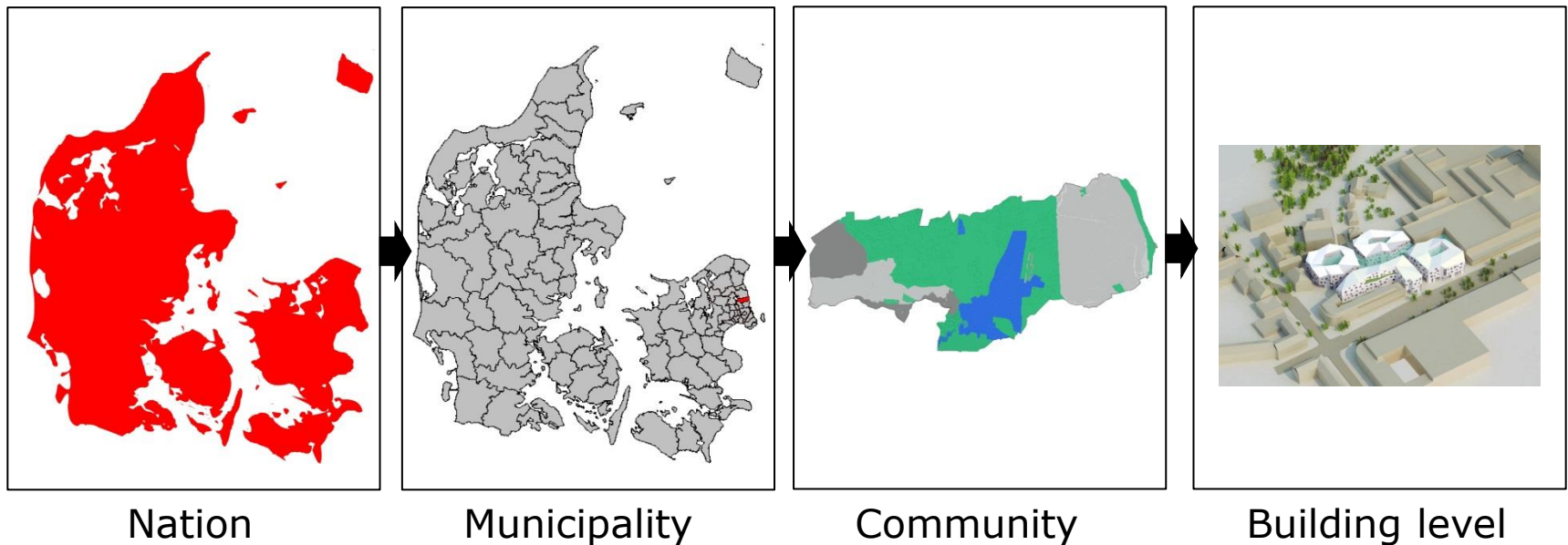
Jens-Phillip Petersen
22-04-2015



BACKGROUND

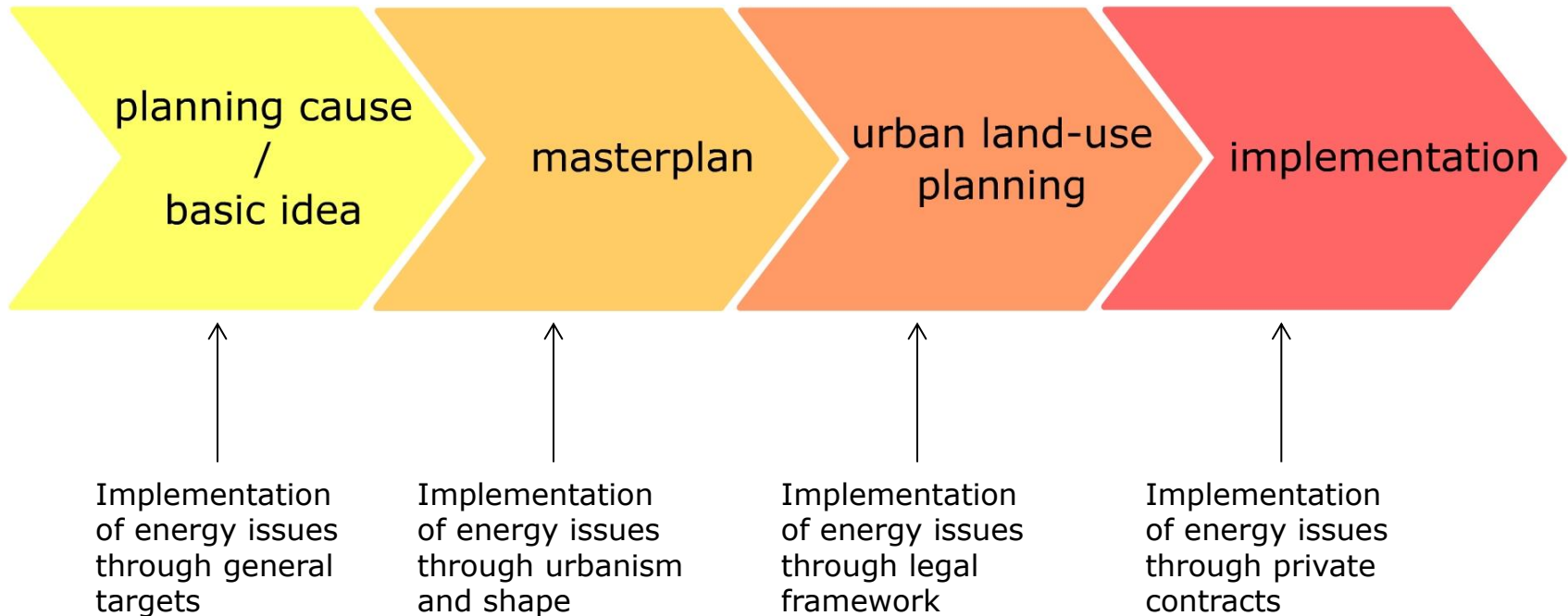
Urban (energy) planning practice

- National GHG reduction goals in the building sector
- Transfer to the local level, carried out by the municipalities and other stakeholders
- Improvement via technology and (user) nudging



Urban (energy) planning practice

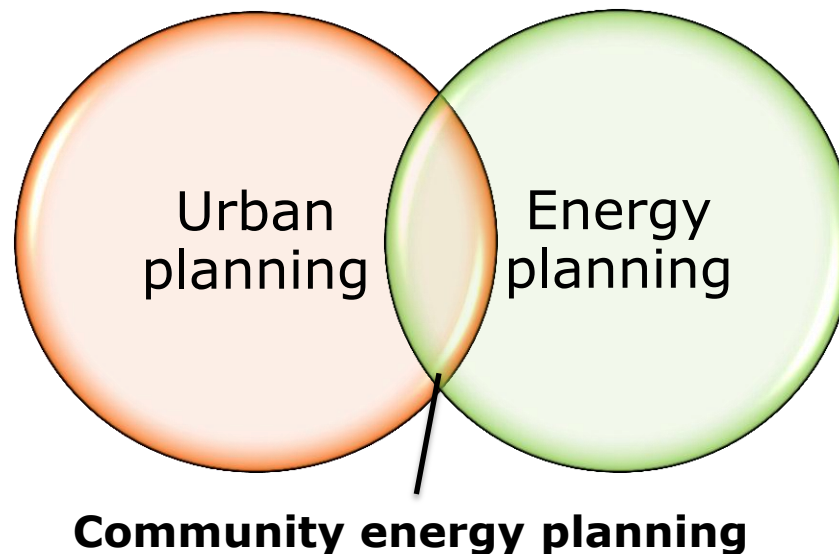
Ordinary urban planning procedure



Community energy planning

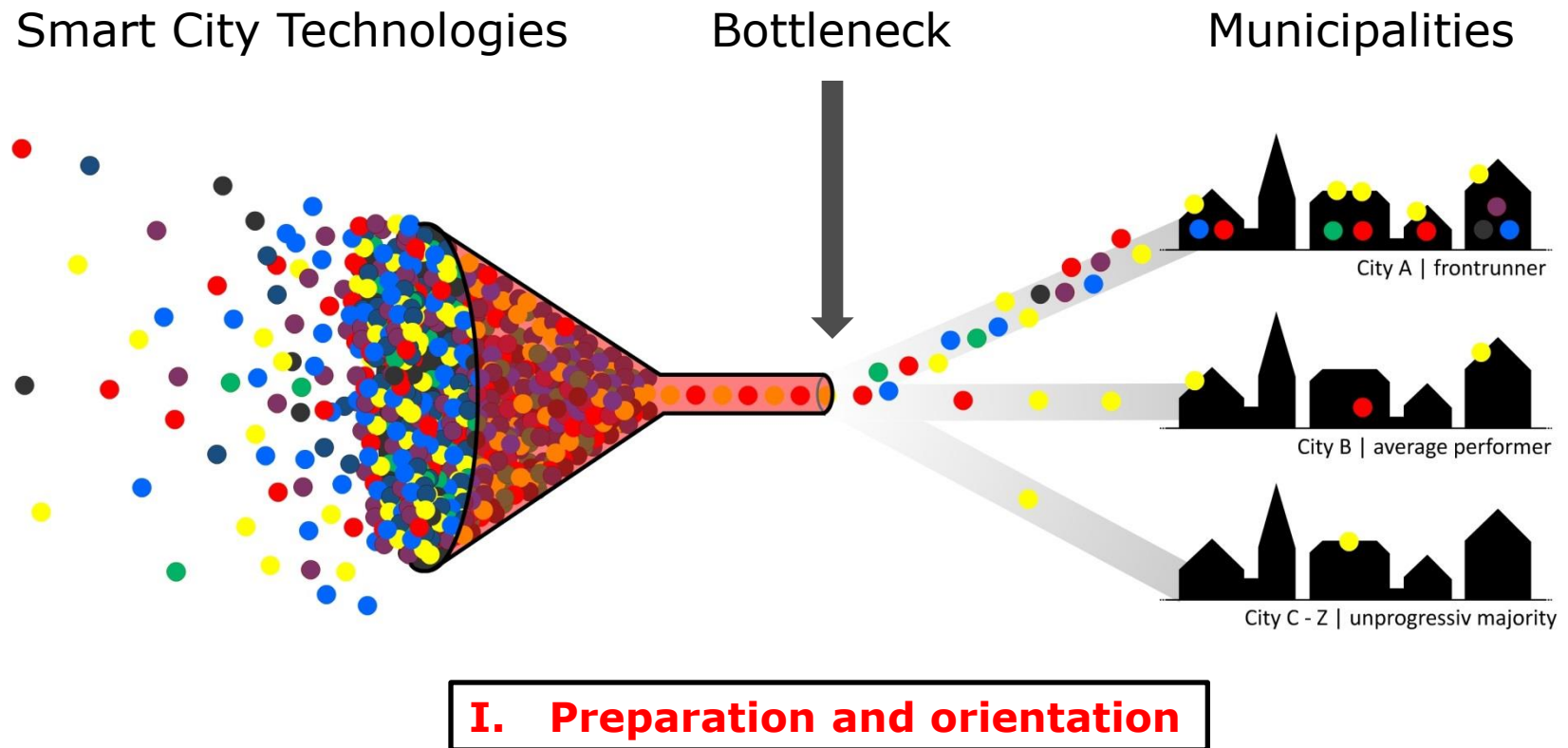
Four phases of community energy planning:

- I. Preparation and orientation
- II. Model design and detailed analysis
- III. Prioritization of measures and decision
- IV. Implementation and monitoring of the specific measures.



PROBLEM

Bottleneck between technology and planning



POSSIBLE SOLUTION

(AIM OF PHD)

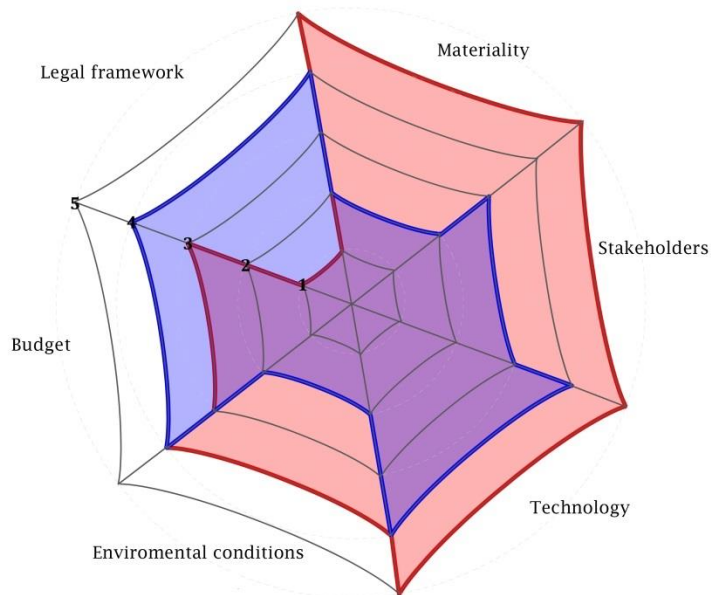
Aim of PhD: Decision making tool

- **Supply the municipalities with a decision making tool**
 - that facilitates the choice of planning methodology,
 - ensures implementation of best energy technology bundle,
 - enables the assessment of community projects regarding energy related issues and by this an evaluation of the planned and executed actions,
 - and in the long run helps to transfer and effectuate the national energy goals at community scale.
- **Working hypothesis**

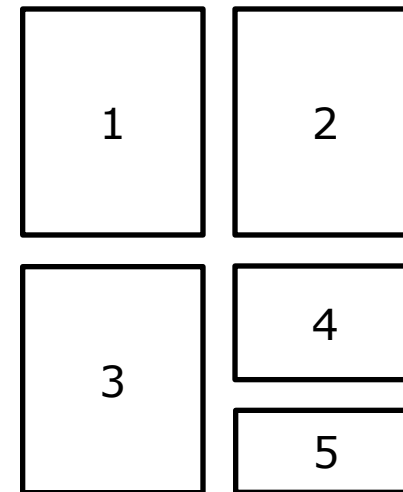
By introducing more knowledge based decision making tools into the initial energy planning process in communities, a higher rate of implementation of renewable and smart energy technology in communities can be achieved.

Structure of decision making tool

- Milestone 1: "Systematization of communities"
- Milestone 2: "Community assessment method"
- Milestone 3: "Technology bundles"



Milestone 1: Systematization via dimensions



Milestone 2: Community assessment method

RESEARCH DESIGN

Research design

- The research design will be divided into three main phases:

Basic research structure			
	Phase 1 (1 year)	Phase 2 (½ year)	Phase 3 (1 ½ years)
Milestone 1+2	Theoretical model	Practical model	Trial run of the tool, tool optimization and implementation
Methodology	<i>Internal and literature research</i>	<i>Case studies questionnaires</i>	<i>Active research: cooperation with municipalities (former case studies)</i>
Milestone 3	Technology bundle development		
Methodology	<i>Literature, other research projects (e.g. CITIES, Annex 63...)</i>		

Thank you for your attention!