Stakeholder related fields of action for process optimization of nearly zero energy and plus energy buildings

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Introduction

Climate change and its consequences:

Building sector:

- 40% of total energy consumption and 30% of greenhouse gas emissions in Europe can be attributed to buildings

=> Solution: **nZEB** and **PEB**

Problem identification

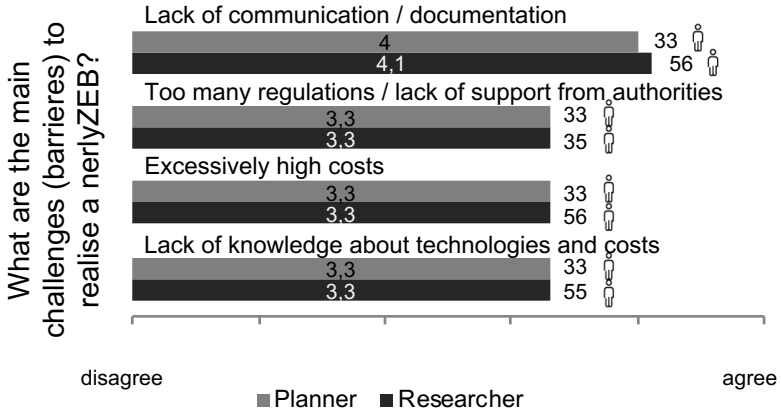
Common problems in the implementation of nZEB and PEB:

- focus only on concrete view of stakeholders
- using the same procedures like in projects with lower requirements of energy consumption

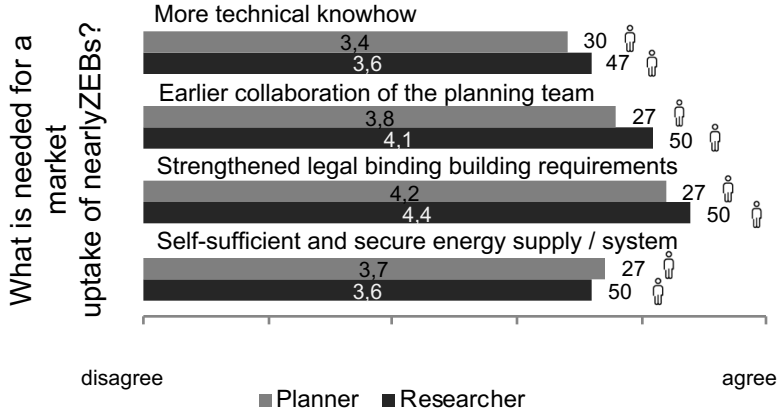
Implementation problems

Results of the Mentimeter survey

https://www.mentimeter.com/



Own illustration based on the Mentimeter survey



Own illustration based on the Mentimeter survey

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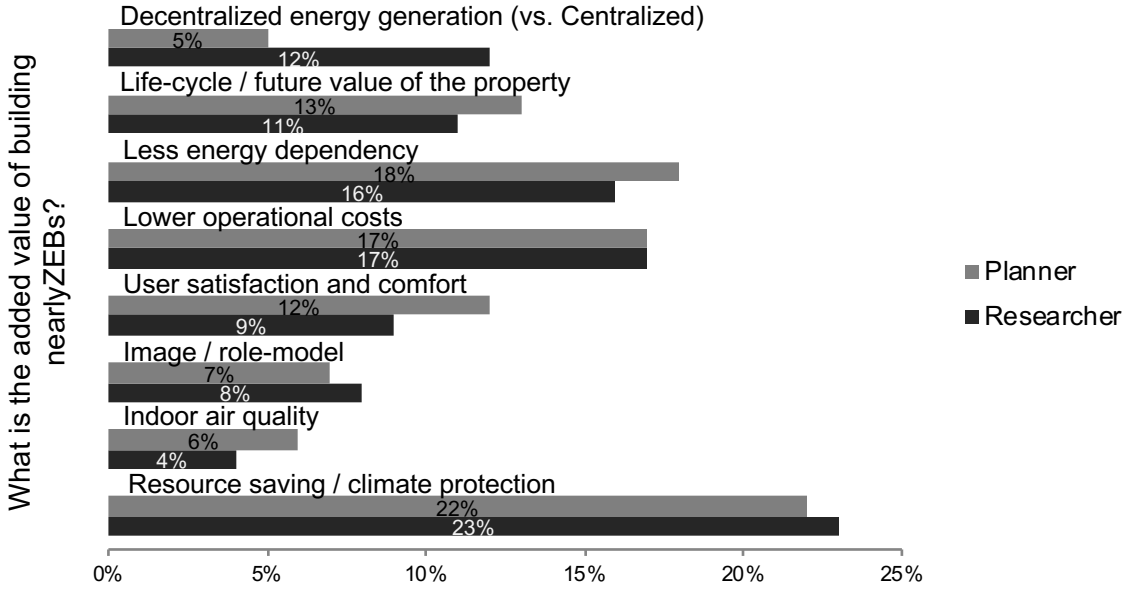


Own illustration based on the Mentimeter survey

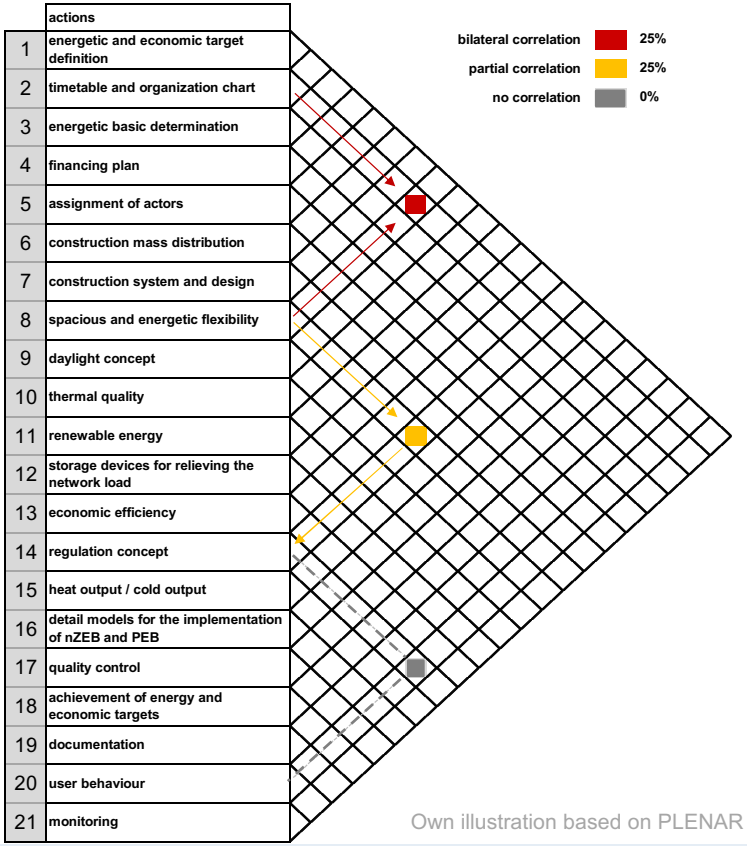
Methodology

- Correlations

  identify correlations

  who is responsible

CRAVEzero



Own illustration based on PLENAR

Methodology

- Correlations
  - identify correlations
  - who is responsible

  CRAVEzero
- Optimization methods
  - to optimize the whole planning process
- Supporting processes

Optimization methods

Two basic types:

- Radical methods
- Successive methods

Three strategies:

- Process reengineering (Business Process Reengineering)
- Process optimisation (Total Quality Management, Lean Management)
- Continuous improvement process (Kaizen, Six Sigma)

Supporting processes

- Artificial intelligence
- Integral planning
- Building Information Modeling

Results

Main results:

- Interaction of all stakeholders and actions
- Temporal reorganization of actions
- Locate sources of error

Effects after optimization:

- Time efficient
- Cost reduction

Conclusion

- The new process has to be tested
- It will be a long time process to replace common methods

Renewable Heating and Cooling in Integrated Urban and Industrial Energy Systems

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IDEA TO ACTION

Thank you
for your Attention