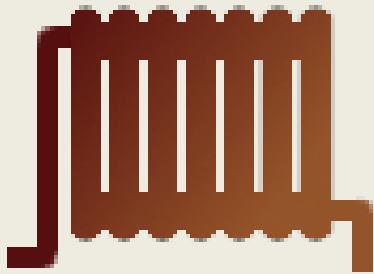




PHD SEMINAR 2. NOVEMBER 2015

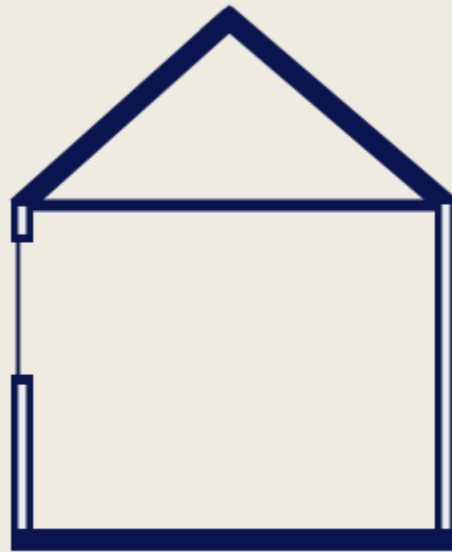
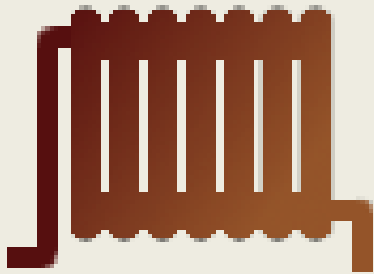
Dorte Skaarup Larsen

How to provide:



Space heating

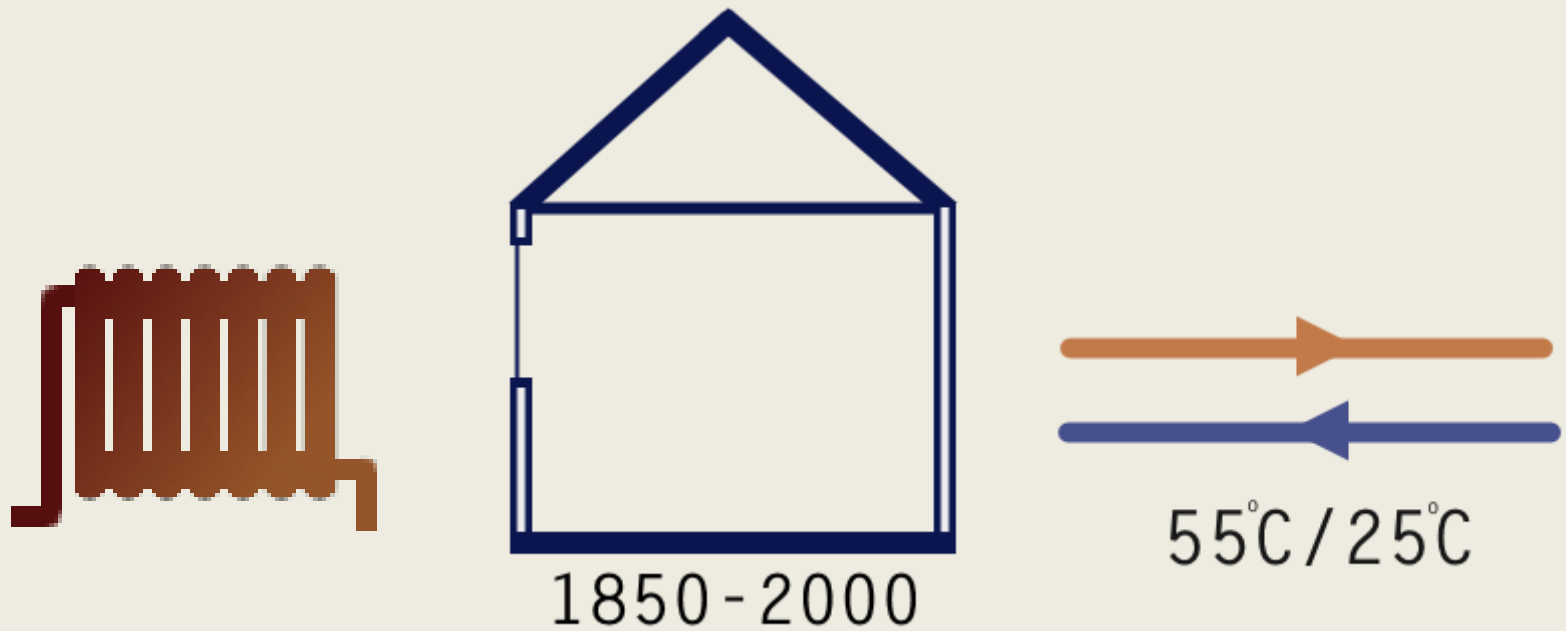
How to provide:



1850 - 2000

Space heating to existing buildings

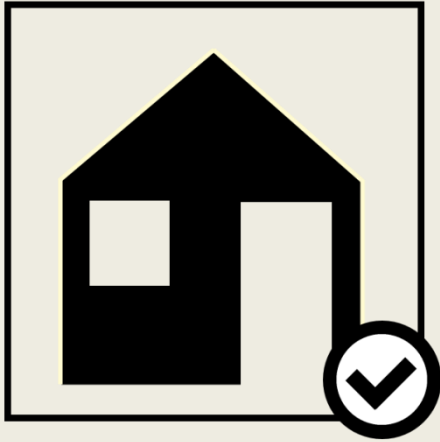
How to provide:



Space heating to existing buildings with low-temperature district heating

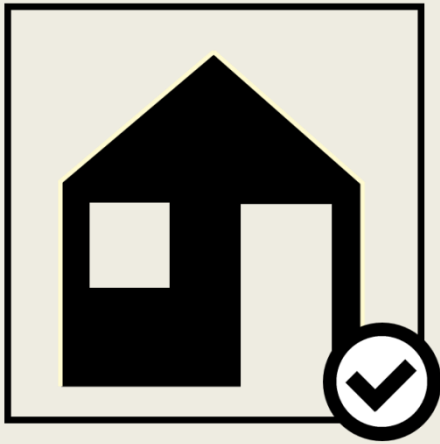
4 focus areas of the project:

4 focus areas of the project:



Evaluation

4 focus areas of the project:

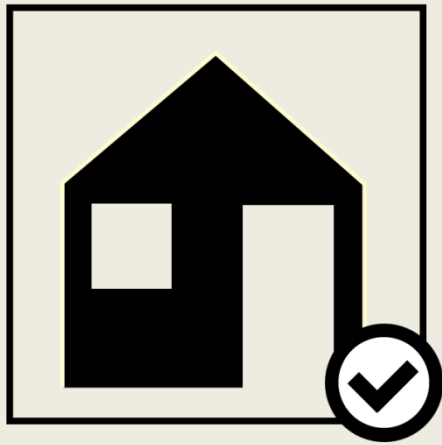


Evaluation

Operation &
maintenance



4 focus areas of the project:



Evaluation

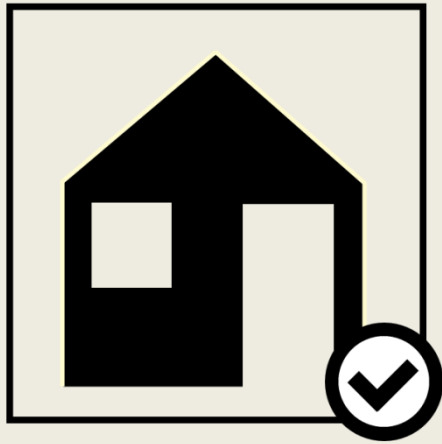


Costs



Operation &
maintenance

4 focus areas of the project:



Evaluation



Costs

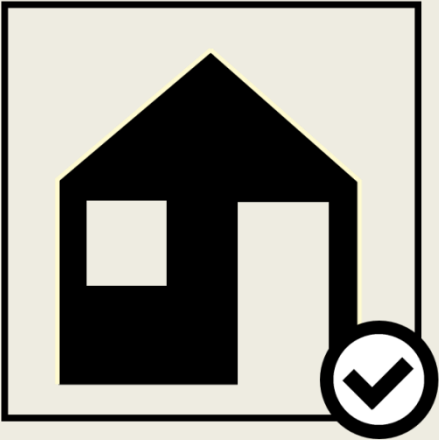


Operation & maintenance



Easy assessment

Focus area of the first year of the research:



Evaluation



Costs

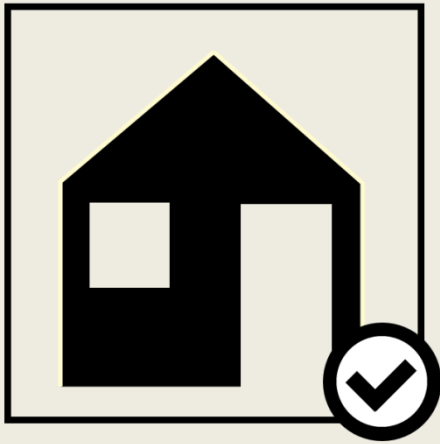


Operation & maintenance



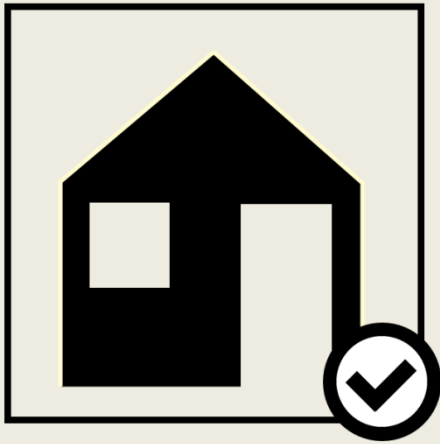
Easy assessment

Focus area of the first year of the research:



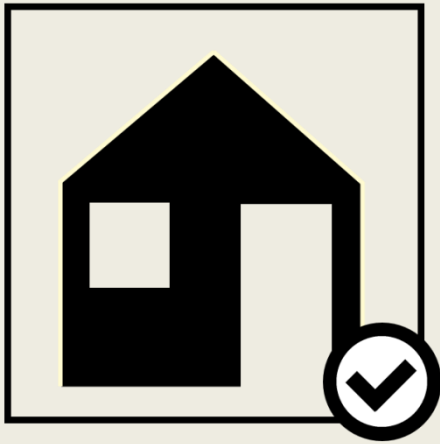
- Identifying case studies

Focus area of the first year of the research:



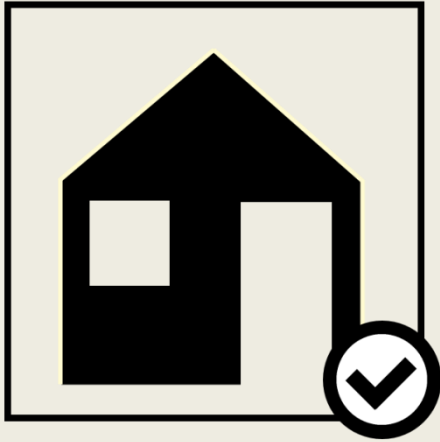
- Identifying case studies
- Methods for measurements

Focus area of the first year of the research:



- Identifying case studies
- Methods for measurements
- Methods for dynamic simulation

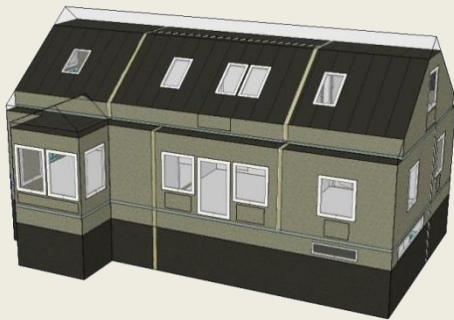
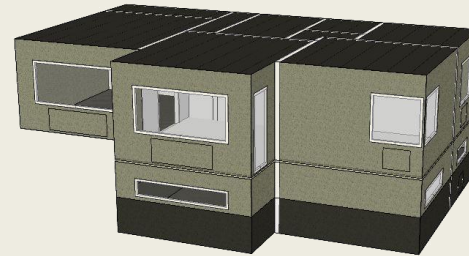
Focus area of the first year of the research:



- Identifying case studies
- Methods for measurements
- Methods for dynamic simulation
- Evaluation of single family houses

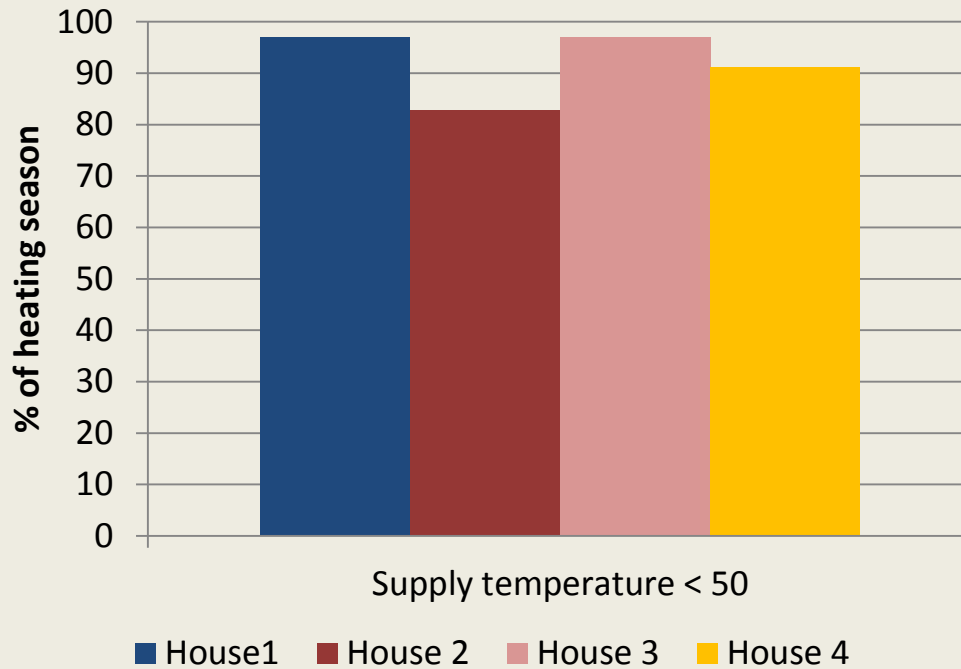
4DH conference:

4DH conference:

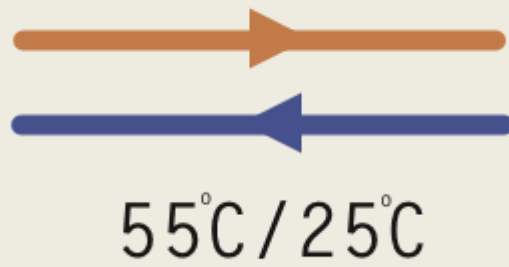


4DH conference:

Supply temperatures



4DH conference:



Current research:

Current research:

Operation &
maintenance

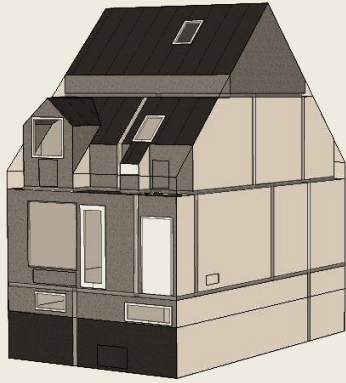


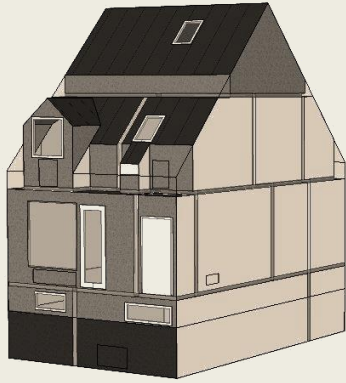
Current research:



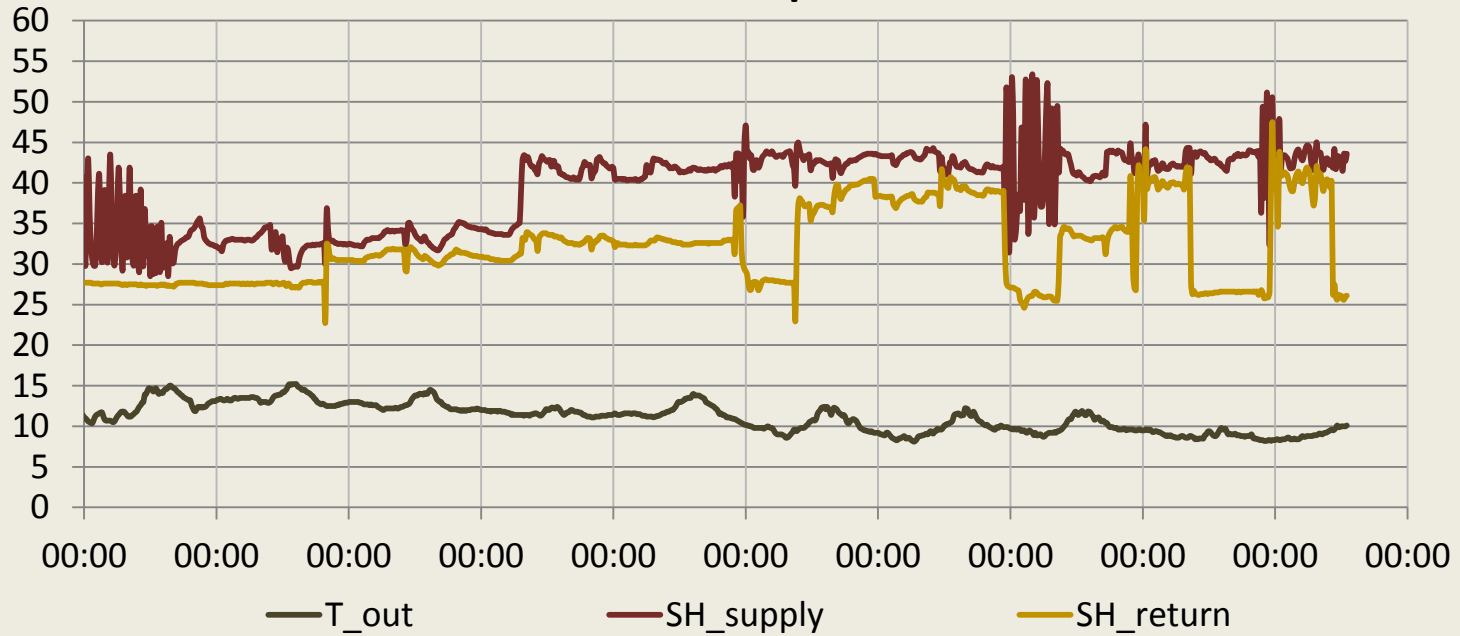
Operation & maintenance

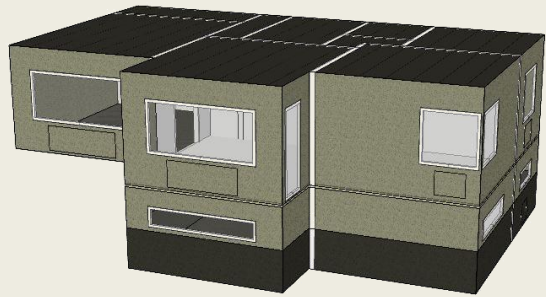


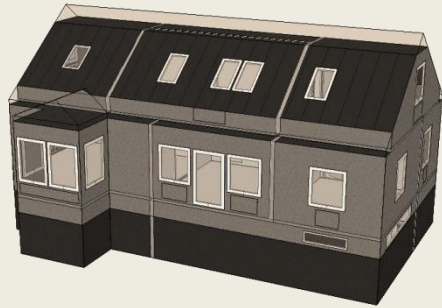


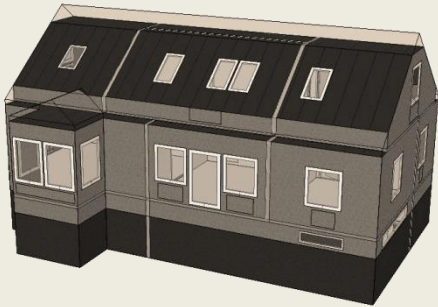


Substation temperatures

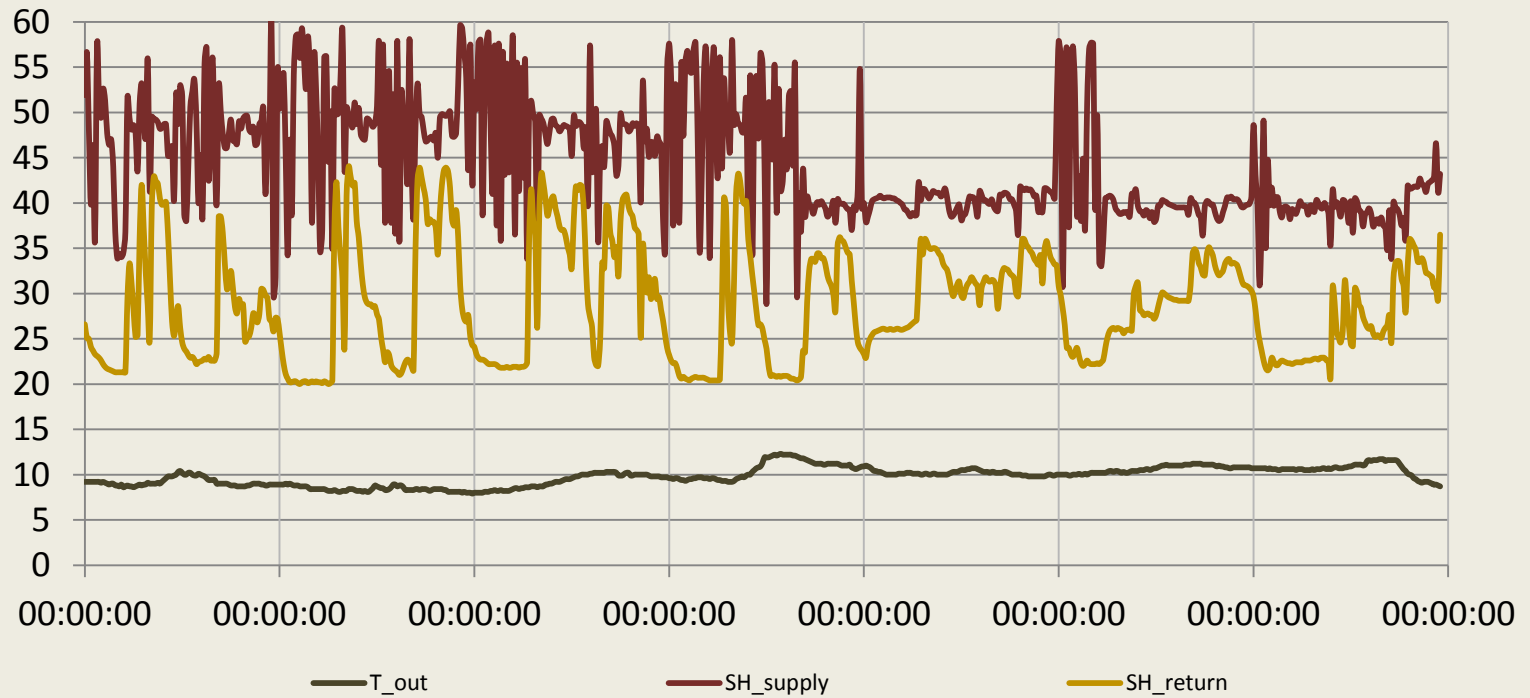


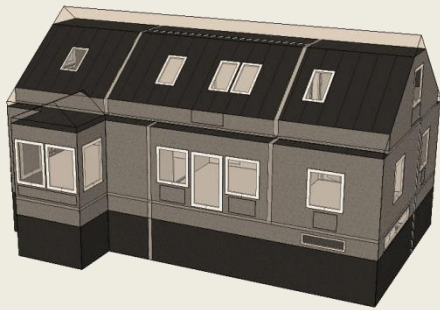




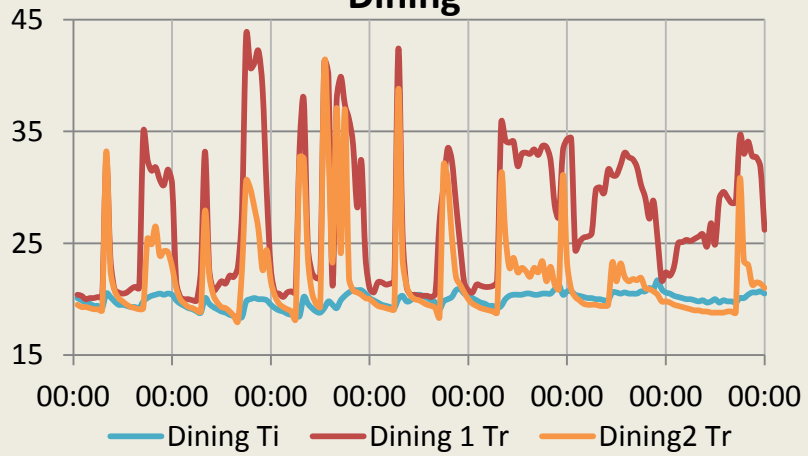


Substation temperatures

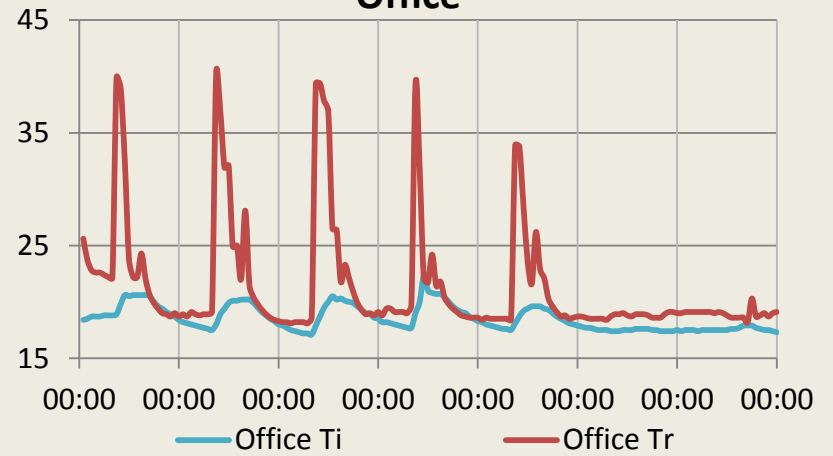


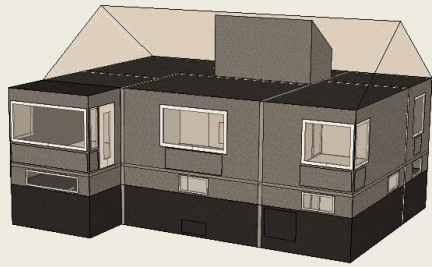


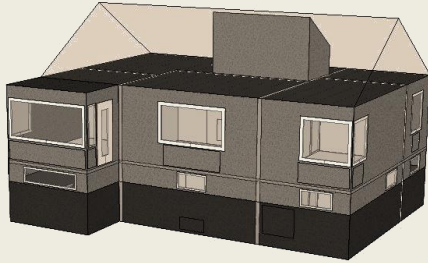
Dining



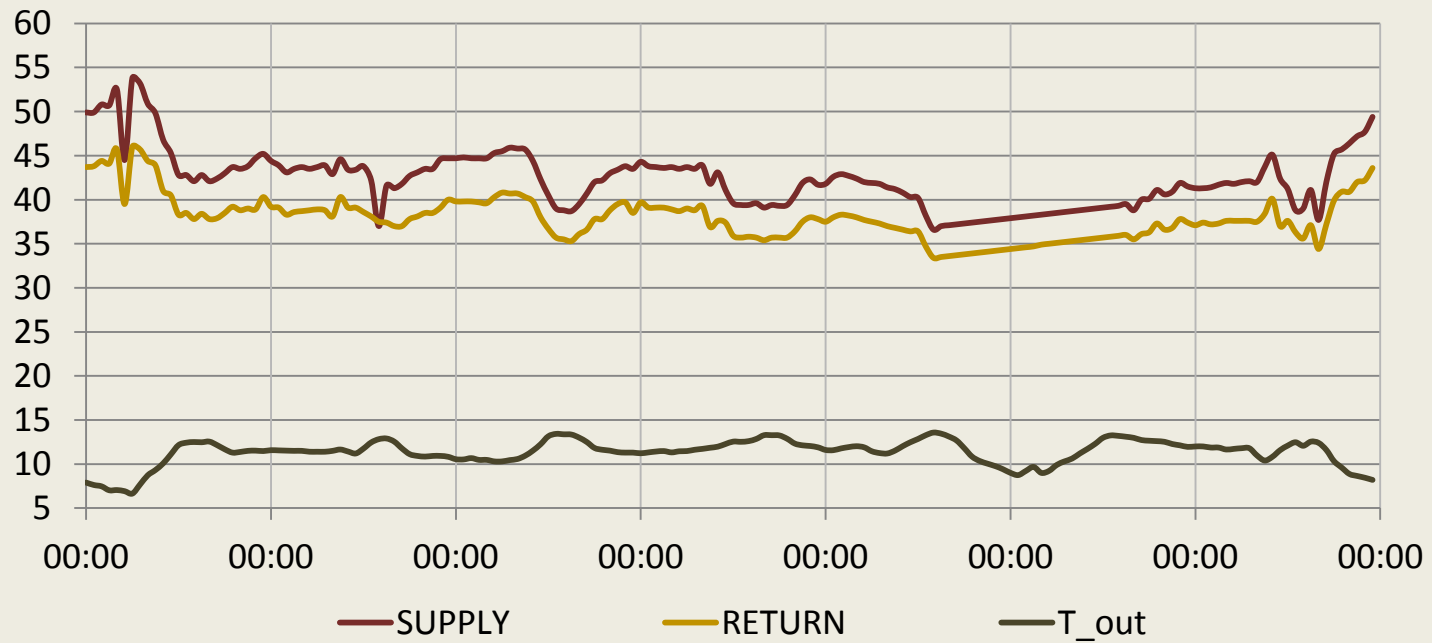
Office

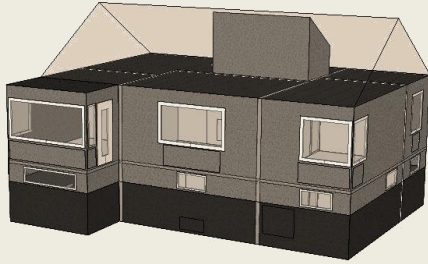




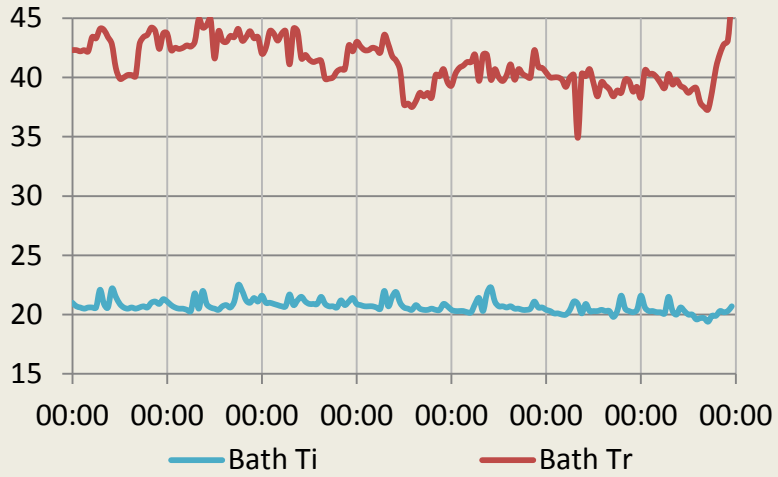


Space heating temperatures

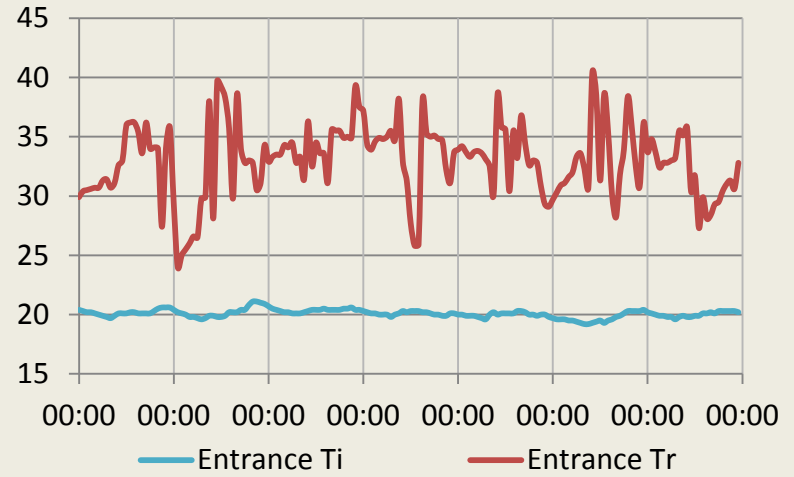


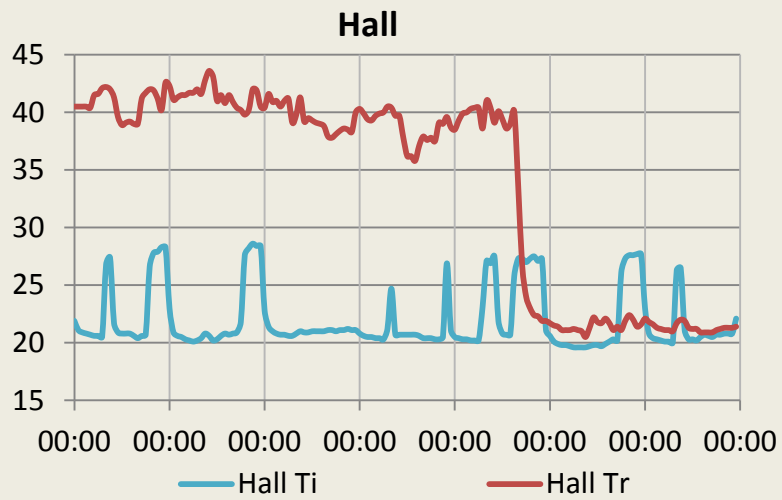
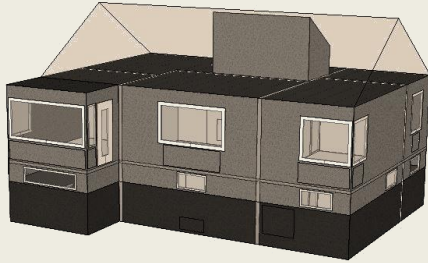


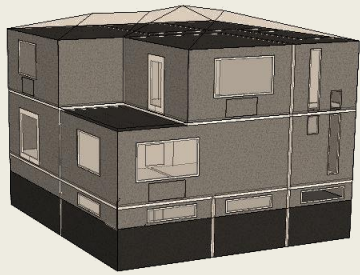
Bathroom

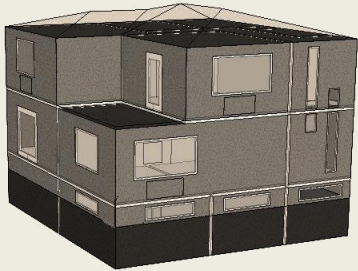


Entrance

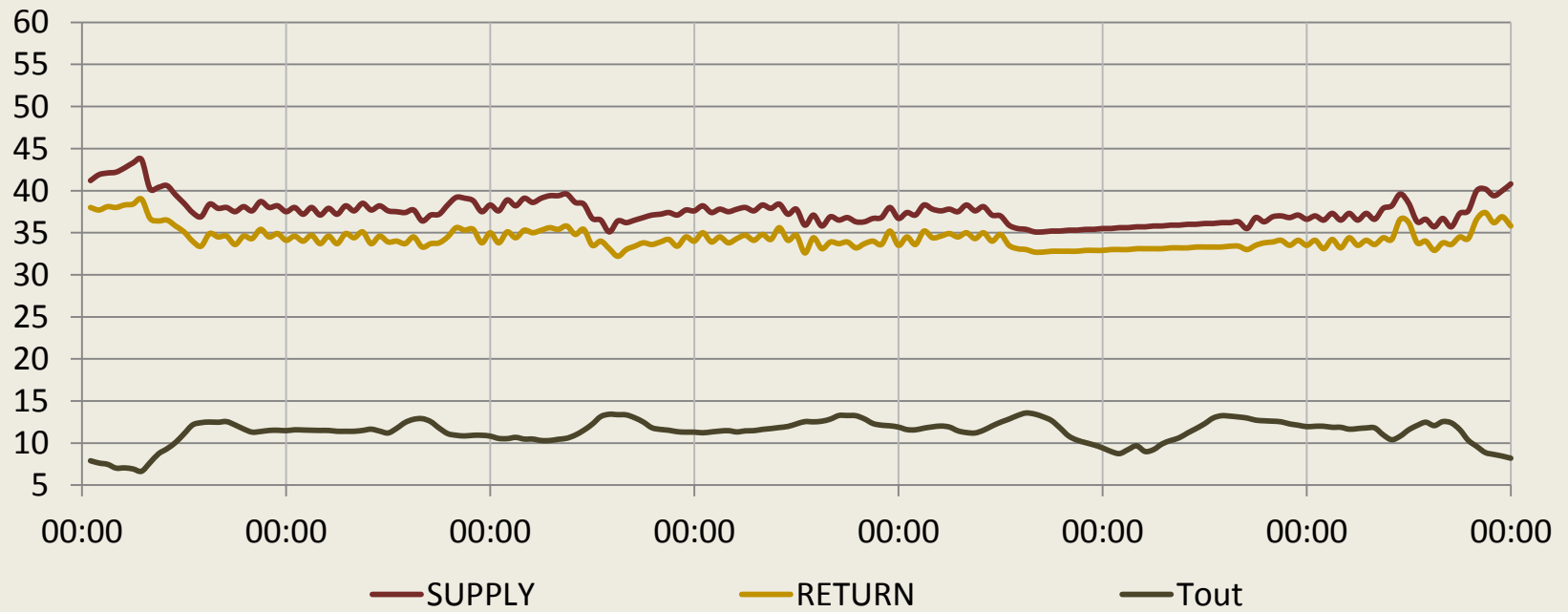








Space heating temperatures



Further research:

- ULTDH in Bjerringbro (measurements and dynamic evaluation)

Further research:

- ULTDH in Bjerringbro (measurements and dynamic evaluation)
- Multifamily houses in Weimar, Germany (measurements and dynamic evaluation)

Further research:

- ULTDH in Bjerringbro (measurements and dynamic evaluation)
- Multifamily houses in Weimar, Germany (measurements and dynamic evaluation)
- Multifamily houses in Copenhagen?

Comments and questions?

