Internal meeting on Flexible Buildings

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Participants

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Carsten Rode	DTU Civil Engineering	car@byg.dtu.dk

Minutes

- Price optimization → increase in energy consumption and CO2 emission
- Grey box models: How detailed sub-models should be?
- Thermal storage not only in constructions
- Energy consumption of charging the thermal mass
- Pierre: How much energy can you save compared to the energy you have used to preheat the room?
- Passive houses cannot be 'activated' for flexibility.
- Jerome: Principle for wall models (FDM vs. Response factors). Transfer functions do not work that well compared to finite difference. RC models don't work on simulation level.
- Sizing of heating system is influential.
- Check influence of controllers:

  P vs. PI

  Temperature vs. Power
- Heat pumps (conversion) for flexibility.
- Importance of time granularity

- Iker: How relevant is to have high resolution load profiles grid wise?
- Networks are different, but that's important.
- Adding generation of power: important but adds complexity.
- Importance of forecasting

List of presentations

- Carsten Rode, 'WP3 -Internal meeting on Flexible Buildings'
- Panagiota Gianniou, 'Building models for flexibility studies'
- Jerome Le Dreau, 'Thermal mass in buildings and energy flexibility'
- Anna Joanna Marszal, Iker Diaz De Zerio Mendaza, 'A paradigm shift in building design-Towards energy optimized buildings that intelligently interact with the power grids'
- Steffen Petersen, 'Flexible buildings project at Aarhus University'
- Michael D. Knudsen, 'Model-based control of HVAC for demand response'
- Theis Heidmann Pedersen, 'Smart grid potential in existing residential buildings'