

INTERDISCIPLINARY AND OCCUPANTS' INVOLVEMENT IN ENERGY FLEXIBILITY

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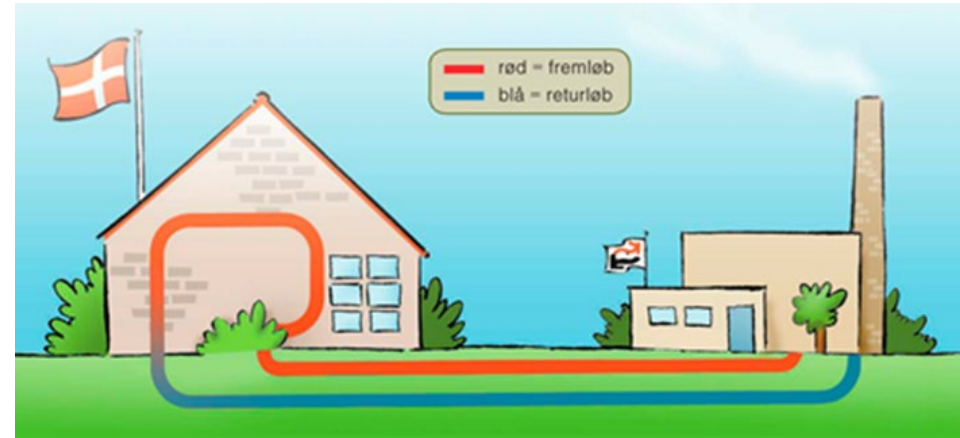
Questions I want to ask....

- Should utilities or end-users be in control of flexibility from residential buildings?
- Is prize signals efficient in regulating everyday routines?
- Are some consumers left behind in this future?
- Can we answer these questions without a transdisciplinary approach?



Energy flexibility in district heating

- The future of energy systems include flexible consumption – also in district heating
- Private homes can technically seen deliver relevant flexibility
- Who should be in control to actually realize this?



A technical vision of regulating without users even notice....

But if users are not aware of their home being eg. preheated they might open windows....

- To cool down, talk to children, get rid of cooking smell, hear the birds....

Is comfort only a question of having a specific quantifiable temperature or is comfort also about being in control yourself, depending on different situations?



An economic vision about prize signals....

If users should be in control they need to have signals of when to be flexible (stop heating) - this is typically prize signals

But....

- Heating is done unconsciously and based on routines
- Heating routines are shaped by social relations and technical systems
- Heating is something which is behind what is important – family life

How much will economic rationality for minor savings influence this?

Smart control - shared between users and systems?

What is a Home:

- ... security and control
- ... a place for activity
- ... continuity and social relations
- ... social status and identity

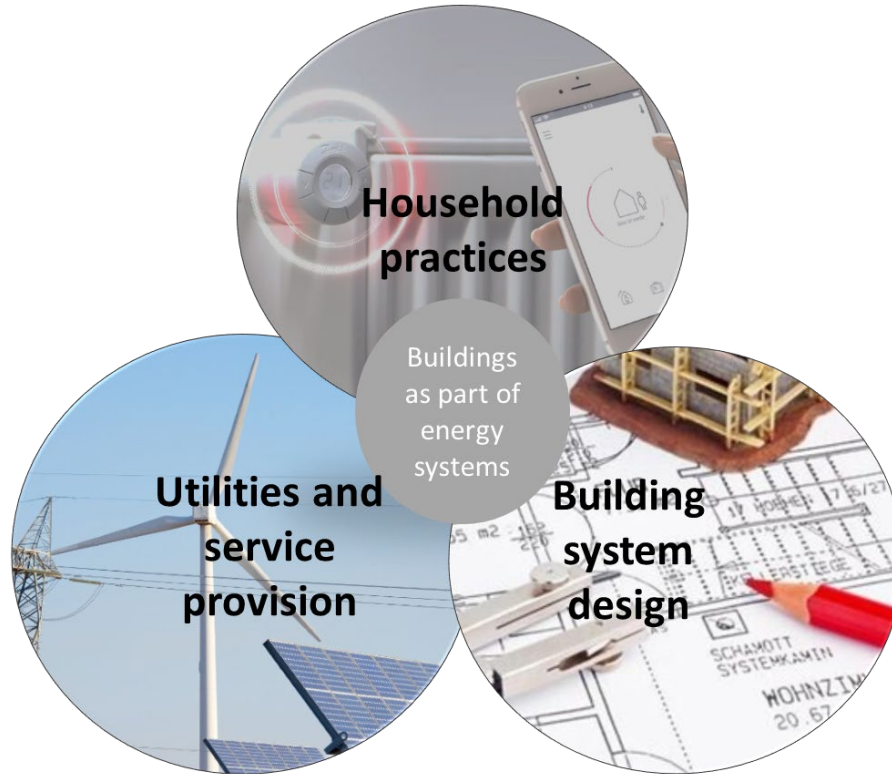
How does Smart technology and control relate to this?

Are some consumers more capable of handling these systems?

New types of energy poverty?



InterHUB: Integrating Households, Utilities and Buildings



THANKS 😊



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