News
The strategic research project UserTEC is soon halfway through the five years period it is planned to run. WP4 has started up and all WPs are therefore up and running. Since the last newsletter, we have done a survey on energy and heat consumption among homeowners with a response rate of almost 70%. Approximately 1200 households have answered questions on their heating related habits.

At the moment we are preparing an international PhD course which will run in the beginning of October 2015, with participation from our partner universities and other universities. The international collaboration in the project have also been strengthened in the past period as Sarah Darby from Oxford University was visiting SBI for two months, and Line V. Madsen was staying at Melbourne University with Yolande Strengers at RMIT for three months.

WP4 is up and running
The WP4 focus on how building users figure in the renovation of existing buildings, and whether the renovation processes can be organized in such a way to better accommodate for the occupants’ needs and everyday behavior.

WP4 got off to a roaring start in February 2015, as the newly employed PhD student, Daniel Pihl, joined Kuben Management’s study of occupant behavior and preferences in connection with the renovation of a privately owned apartment building. The occupant study was completed in May 2015 and has been presented at a project meeting in the same month.

The project is supported by:

Innovation Fund Denmark
RESEARCH, TECHNOLOGY & GROWTH

Visualization of an energy renovation project which is used as a pilot study in WP4

A new PhD student in WP4
The seventh and last PhD student on the UserTEC project is found. Daniel Pihl started his PhD project in February with Susse Georg as his supervisor. The aim of his study is to examine how professional stakeholders construct and negotiate representations of future occupants during design of energy renovation projects.

The PhD project follows architects, engineers, client consultants, representatives from municipalities, and other stakeholders and their negotiations on how renovation of exiting buildings best will comply with legislation, client demands and occupants’ wishes. The project take a sociotechnical approach and focus both on arguments from the stakeholders as well as the drawings and models they produce with an aim to convince other stakeholders of a design suggestion.

The project will look into how we can accommodate design of buildings for low energy consumption by acknowledging user behavior in the process. At the moment, Daniel is looking for renovation projects to follow and developing his theoretical and methodological framework.
Insights from PhD in WP2

The focus in Pernille’s PhD within UserTEC WP2 is on communication about everyday households’ energy practices as they unfold between different actors somehow involved in energy transition within the private housing sector. More precisely, Pernille has been mapping out different views on private households’ role in this transition.

During the first two years, Pernille has been concentrated on data collection, primarily building from two pilot studies of homeowners talking about living with an IHC system, as well as two workshops with UserTEC partners where they have expressed their view on homeowner practices. Pernille has also been visiting scholars at the SPIRE research center in Sønderborg and at the Environmental Change Institute in Oxford. During the last year, Pernille has been analyzing data from these activities.

Preliminary findings suggest that a dominance of a techno-optimistic rational agenda exists, building on comfort norms, regulation standards and engineering logics. This does not necessarily comply with user logics and users living, creating gap between producers’ conceptions of users and end-users’ conception of energy conservation technology. Building on Third Space Theory and communication theory and methods within Design Anthropology, Pernille is developing a method for the creation of spaces where current conceptualizations of problem spaces can be expanded.

Presentations of UserTEC

The UserTEC research project has implications for policy and practices within the energy and housing sector, and therefore it is highly relevant to present the project and its main ideas in different forums. Therefore, the project and some of its implications have been presented this spring at a number of different occasions including:

- UPGRADE ’15, a Danish conference on retrofitting of industrialised buildings held in Aarhus 24 Marts 2015.
- Innovation fund seminar and mini-exhibition 26 March 2015, with a poster presentation.

At these and other occasions a figure which compares actual and calculated residential energy consumption of 230.000 Danish detached homes, is always causing quite some debate. The diagram below hereby shows how a G-labeled house in theory consumes 8 to 9 times more energy as an A-labeled home, whereas in reality the difference is less than a factor 2.

Understanding this difference, what causes it and how to reach real savings rather than only theoretical savings is at the core of the UserTEC project.

![Actual and theoretical energy consumption per m² of detached housing per energy label](image)

Comparing actual and calculated residential energy consumption is quite illustrating for the issues dealt with in the UserTEC project.

UserTEC is a strategic research project lead by Kirsten Gram-Hanssen, SBi, Aalborg University. It is conducted in cooperation with University of Cambridge, University of Oxford, Linköping University, Delft University of Technology and Technical University of Denmark, as well as in cooperation with major Danish and international companies within the building and energy sector. More info at: [http://sbi.dk/usertec](http://sbi.dk/usertec)