Demand Flexibility in District Heating Networks:
An Exploration of Heating Practices
When Smart Home Technology Enters Everyday Life

16 June 2021
13:00 – 17:00

This defence will be carried out online.

PHD DEFENCE
by Simon Peter A. K. Larsen
THESIS SUMMARY
Low-carbon transition scenarios imply that the district heating network will be increasingly dependent on renewable energy sources (RES) in a near future. As RES are more fluctuating in nature, enabling energy demand flexibility (balancing production and demand) becomes an emerging challenge. Enabling flexibility in the district heating network, include scenarios of integrating residential buildings, using them as short-term thermal storages for heat loads. Shifting the boundaries of the district heating network, using residential buildings actively, calls for a deeper understanding of the role of occupants and how they perform everyday practices.

This dissertation aims to investigate the role of occupants in relation to enabling heat demand flexibility, focusing on mundane aspects of how occupants heat their homes, how they engage with smart home technologies for load shifting and how heating is entangled in everyday life practices. The research contributes with a nuanced picture of occupants’ role in scenarios for enabling a heat demand flexibility, by showing the complex ways in which heating practices are performed and how they reconfigure differently.

ASSESSMENT COMMITTEE
- Assoc. Prof. Charlotte Louise Jensen, Dept. of Planning, Aalborg University (chairman)
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HOW TO PARTICIPATE
The PhD defence will be carried out online via Zoom.

Link: [https://aaudk.zoom.us/j/67123910459](https://aaudk.zoom.us/j/67123910459)
Meeting ID: 671 2391 0459
Passcode: 125155

COPY OF THESIS
For a copy of the thesis, please send an email to inst.build.phd@build.aau.dk.

This PhD defence is organised by the Department of the Built Environment.