

Post-Occupancy Evaluation of Low-Energy and Passive House Apartments in the Løvåshagen Cooperative —Occupant Behavior and Satisfaction

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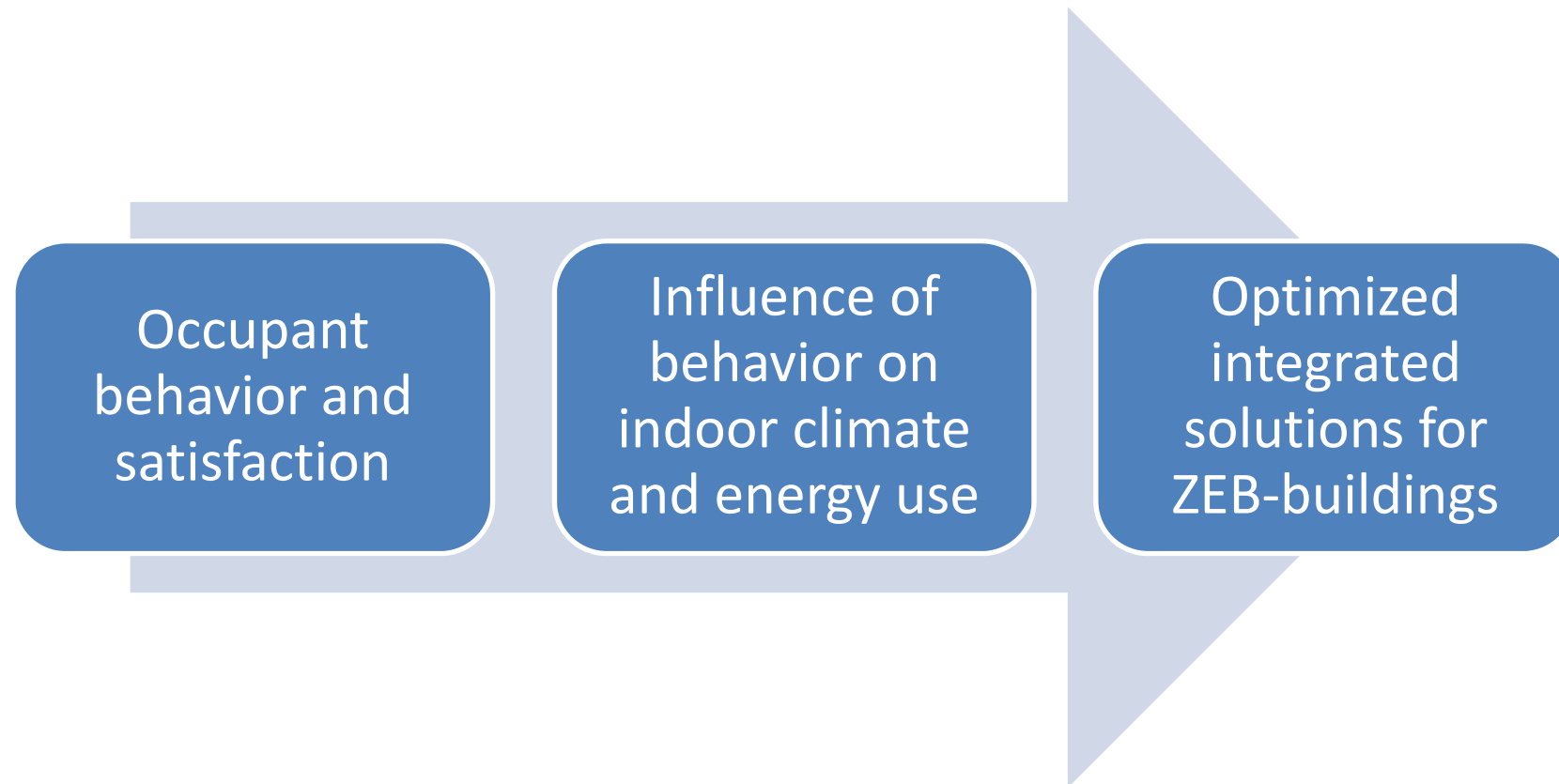
NTNU, Department of Architectural Design, History and Technology



The Research Centre on
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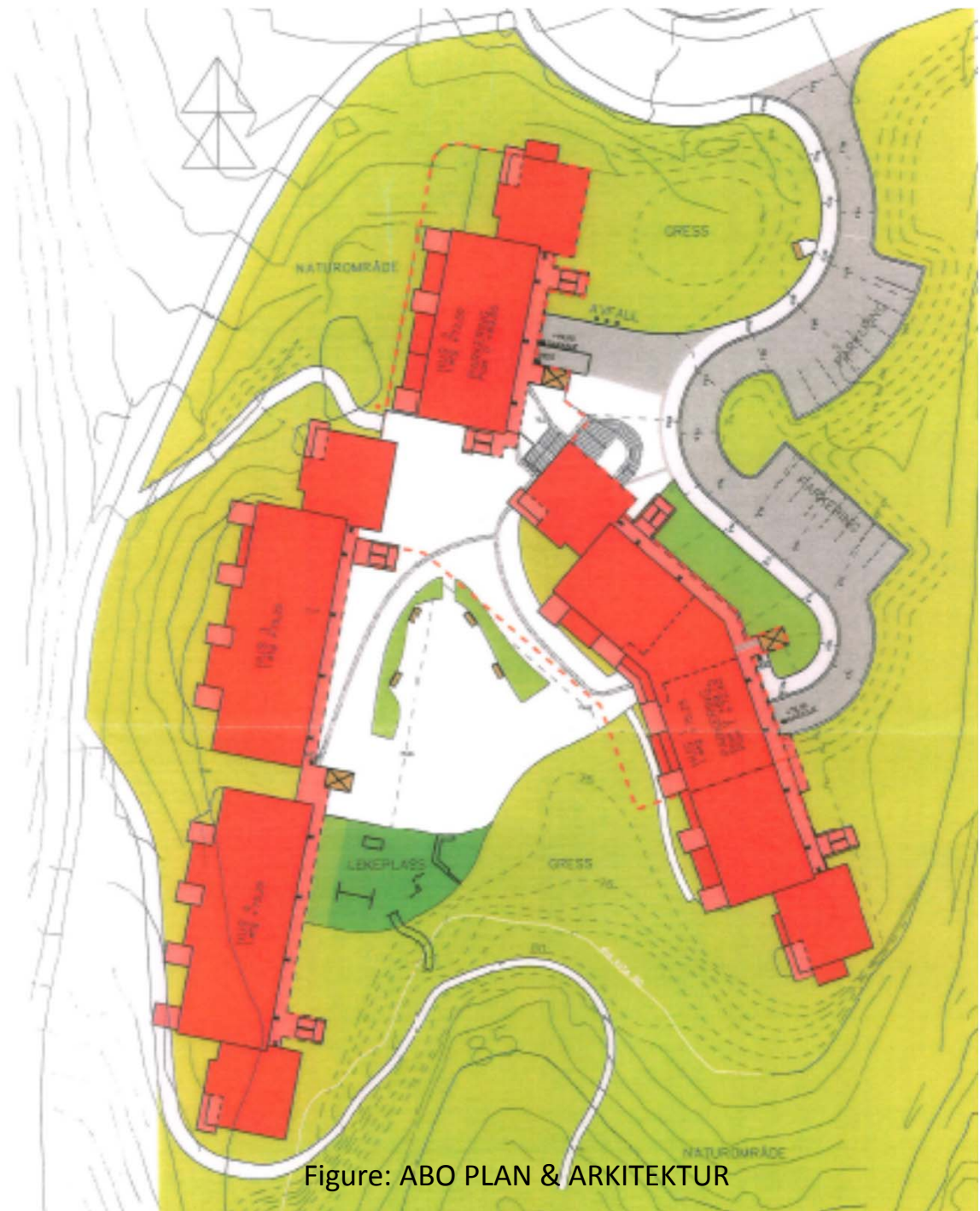
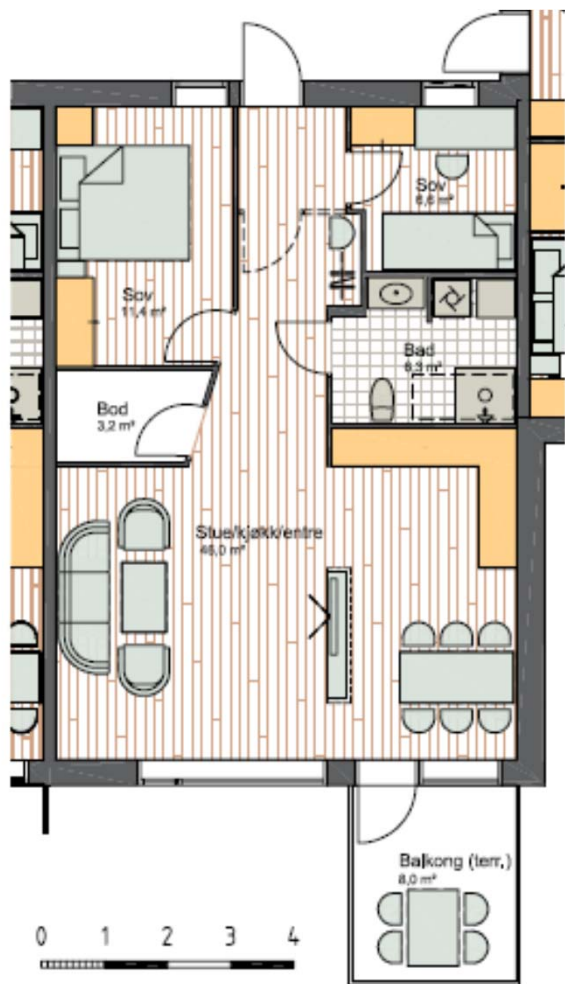
Objective



Case: Løvåshagen cooperative in Bergen (N)



Figure: ABO PLAN & ARKITEKTUR



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Methods

- Occupant survey (net based questionnaire)
 - 1. part: Standardized questions (Örebro model)
 - 2. part: Questions regarding behavior and satisfaction
- Measurements (ongoing)
 - Indoor air quality (CO₂, RH, T)
 - Detailed energy use
 - Window opening time
 - Air volume
 - Sound levels from ventilation
- Simulations
 - Parametric study to quantify impact of occupant behavior

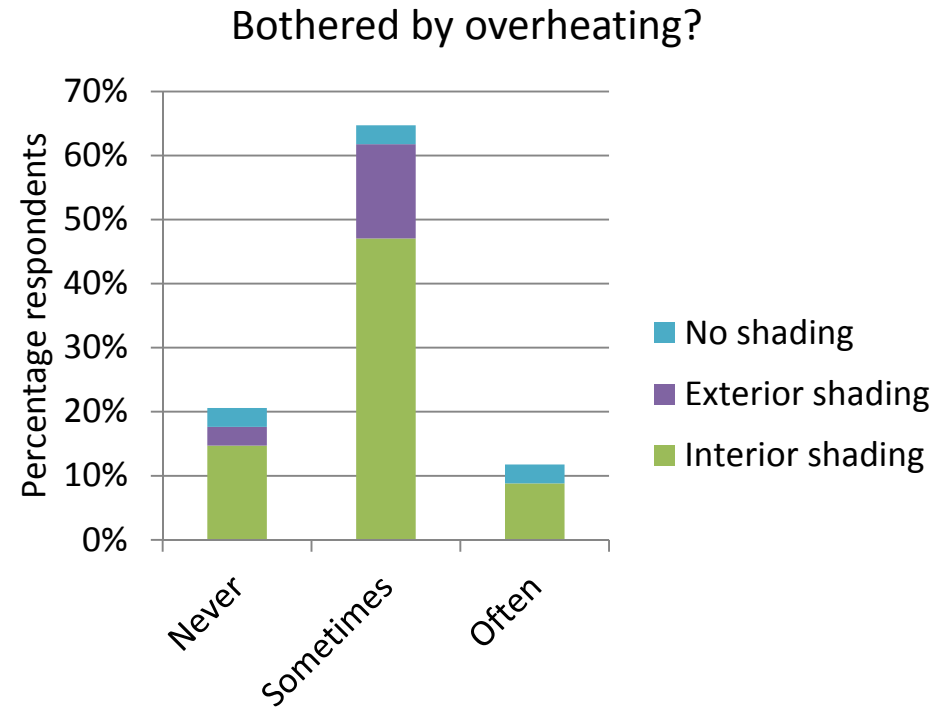
Some results from user survey (net based questionnaire)

Occupant behavior and satisfaction:

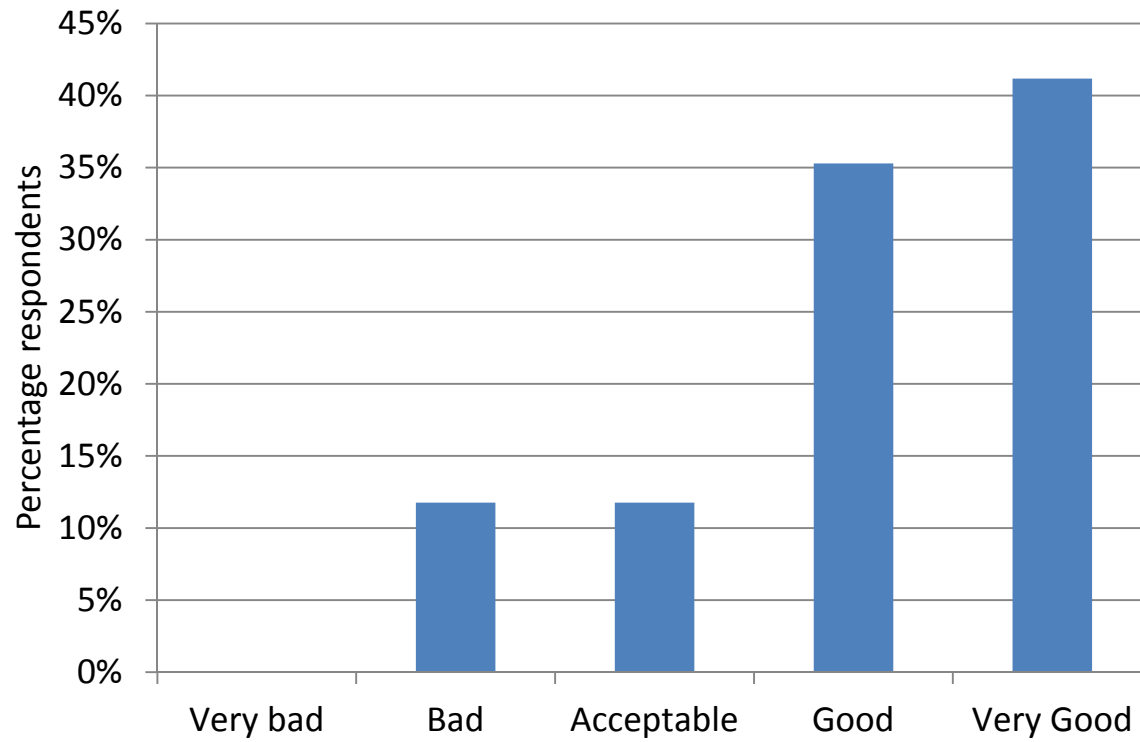
- Perception of thermal comfort
- Perception of indoor air quality
- Window opening habits
- Bathroom floor heating habits
- More results in the paper.

Thermal comfort

- High general perceived thermal comfort (77 % consider room temperatures as good/very good)
- No one with exterior shading is often bothered with overheating
- Cooler inlet air temperature in bedroom would be preferred

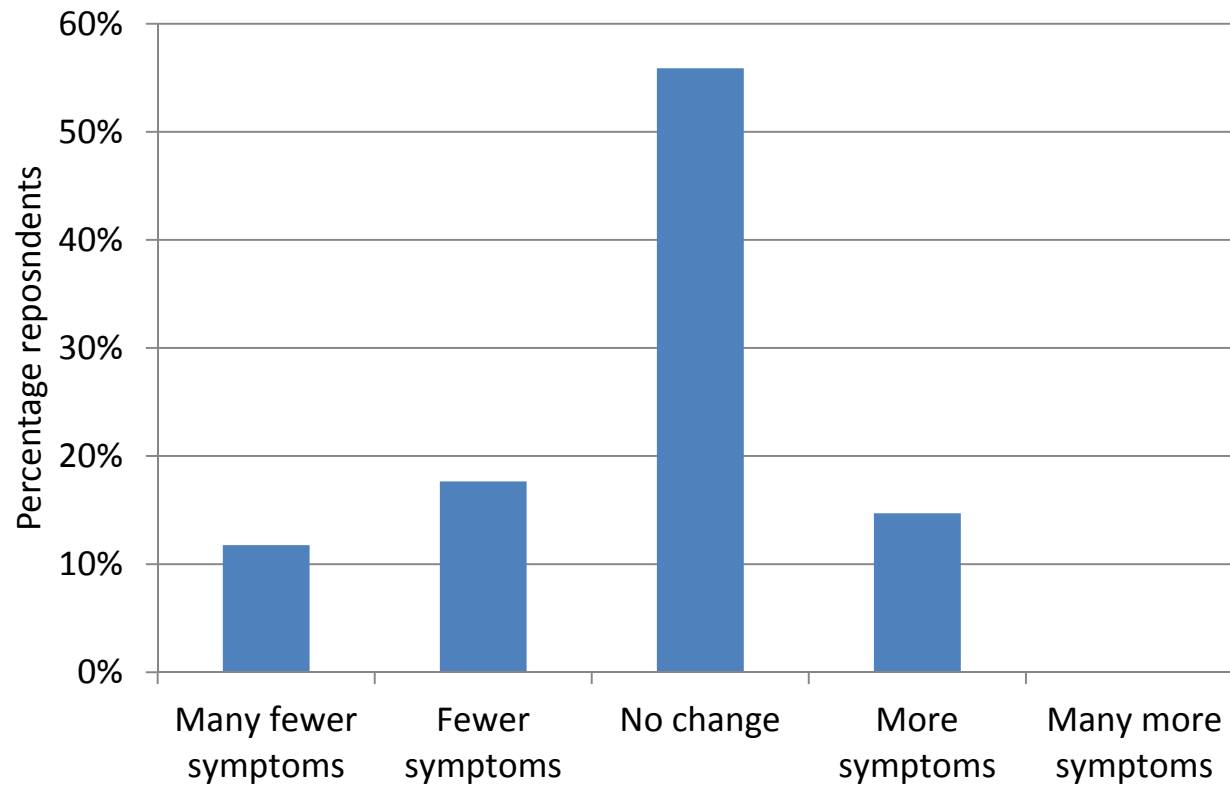


Perception of indoor air quality

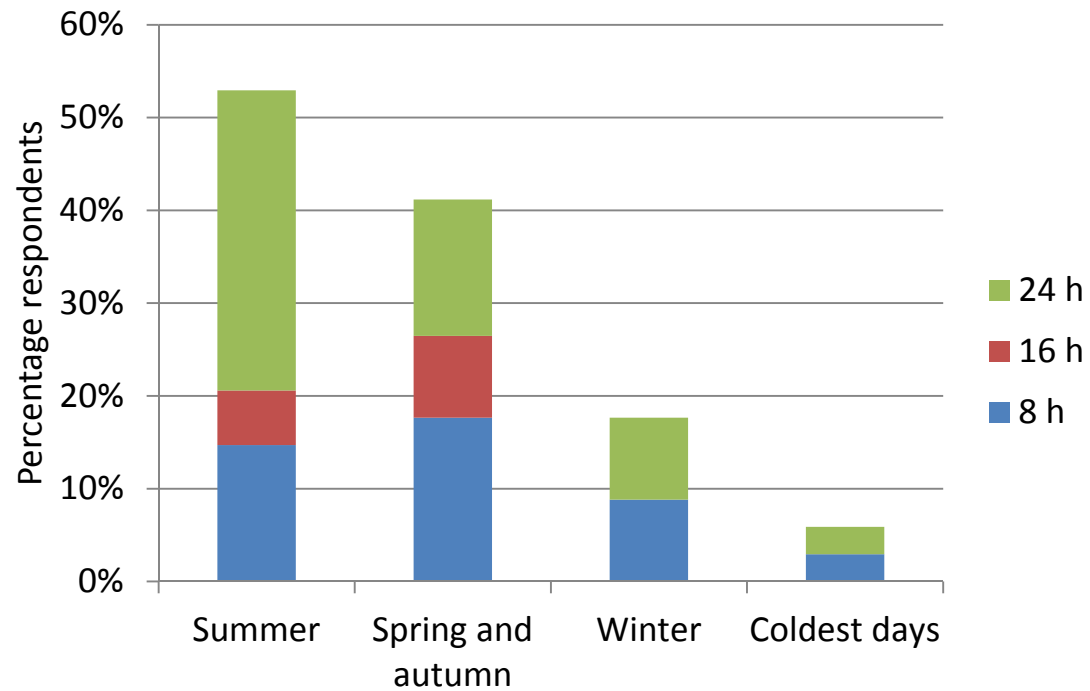


Changes in indoor climate-related symptoms

Degree of noticed change after moving to Løvåshagen.



Stated window opening time (bedroom)



Bathroom floor heating

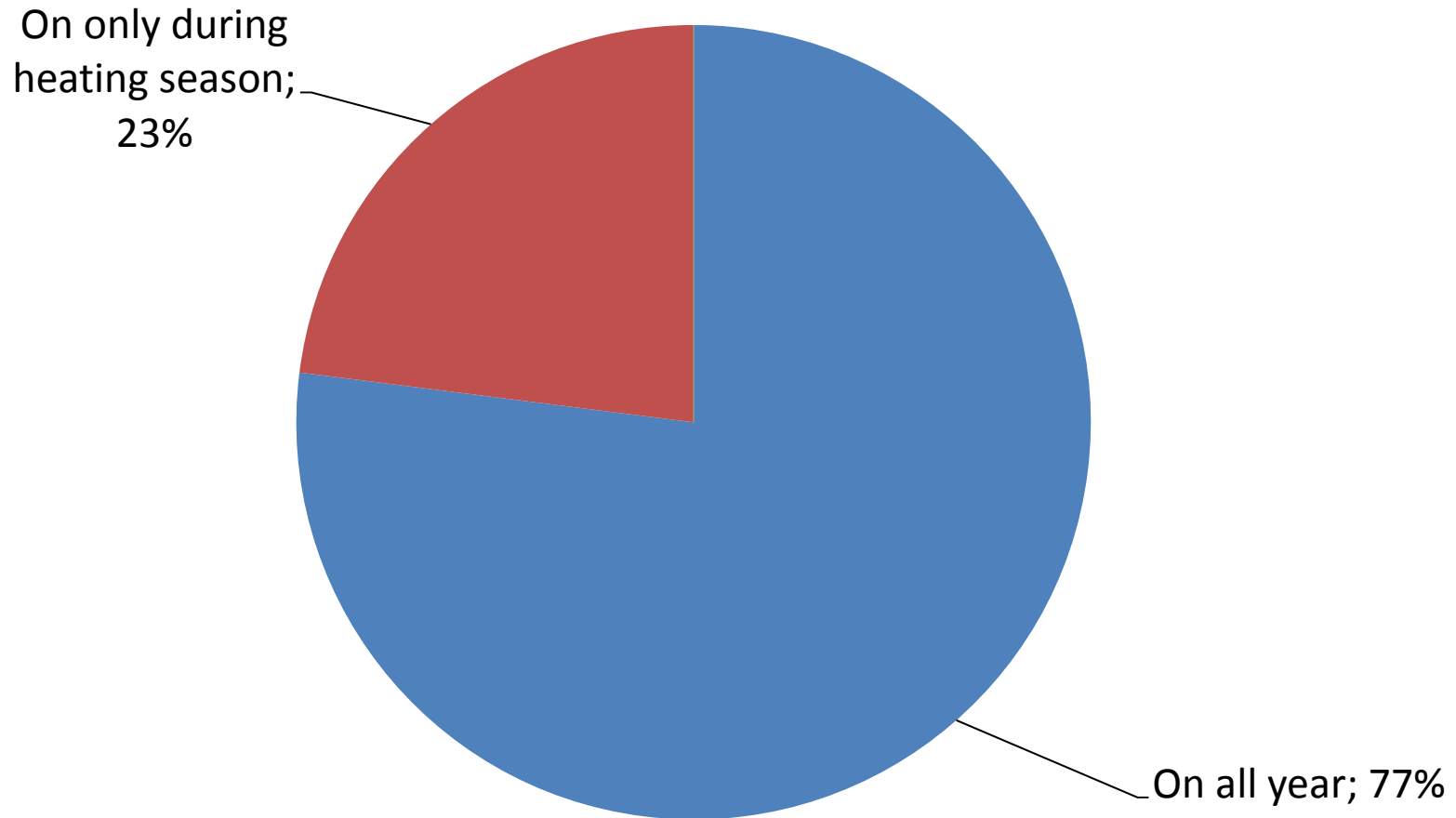




Photo: DEVI

