

## Will My Home Remain My Castle? Tenants' Interview Topics regarding an Eco-Friendly Refurbishment Strategy in a Neighborhood in Germany

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**Abstract :** According to the Federal Government's plans, the German building stock should be virtually climate neutral by 2050. Thus, the "EnEff.Gebäude.2050" funding initiative was launched, complementing the projects of the Energy Transition Construction research initiative. Beyond the construction and renovation of individual buildings, solutions must be found at the neighborhood level. The subject of the presented pilot project is a building ensemble from the Wilhelminian period in Munich, which is planned to be refurbished based on a socially compatible, energy-saving, innovative-technical modernization concept. The building ensemble, with about 200 apartments, is part of the building cooperative. To create an optimized network and possible synergies between researchers and projects of the funding initiative, a Scientific Accompanying Research was established for cross-project analyses of findings and results in order to identify further research needs and trends. Thus, the project is characterized by an interdisciplinary approach that combines constructional, technical, and socio-scientific expertise based on a participatory understanding of research by involving the tenants at an early stage. The research focus is on getting insights into the tenants' comfort requirements, attitudes, and energy-related behaviour. Both qualitative and quantitative methods are applied based on the Technology-Acceptance-Model (TAM). The core of the refurbishment strategy is a wall heating system intended to replace conventional radiators. A wall heating provides comfortable and consistent radiant heat instead of convection heat, which often causes drafts and dust turbulence. Besides comfort and health, the advantage of wall heating systems is an energy-saving operation. All apartments would be supplied by a uniform basic temperature control system (around perceived room temperature of 18 °C resp. 64,4 °F), which could be adapted to individual preferences via individual heating options (e. g. infrared heating). The new heating system would affect the furnishing of the walls, in terms of not allowing the wall surface to be covered too much with cupboards or pictures. Measurements and simulations of the energy consumption of an installed wall heating system are currently being carried out in a show apartment in this neighborhood to investigate energy-related, economical aspects as well as thermal comfort. In March, interviews were conducted with a total of 12 people in 10 households. The interviews were analyzed by MAXQDA. The main issue of the interview was the fear of reduced self-efficacy within their own walls (not having sufficient individual control over the room temperature or being very limited in furnishing). Other issues concerned the impact that the construction works might have on their daily life, such as noise or dirt. Despite their basically positive attitude towards a climate-friendly refurbishment concept, tenants were very concerned about the further development of the project and they expressed a great need for information events. The results of the interviews will be used for project-internal discussions on technical and psychological aspects of the refurbishment strategy in order to design accompanying workshops with the tenants as well as to prepare a written survey involving all households of the neighbourhood.

**Keywords :** energy efficiency, interviews, participation, refurbishment, residential buildings

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