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## The role of energy efficiency in renovation processes - How building professionals integrate energy in building renovations

How do built-environment professionals integrate energy efficiency into the renovations of multi-family dwellings? Energy use in buildings in Sweden and EU represents 40% of the total energy use. A major challenge is thereby the existing building stock since the new building rate is relatively low. Thus, renovation plays a crucial role for reduced energy consumption. How, when and why some energy efficient measures are included in a renovation project is decided by professionals during the renovation process. These decision making processes in the planning and design phase are in focus for my research.

I have followed three renovation projects of a municipality-owned housing company in a middle-sized Swedish town. This company has the goal to reduce the amount of purchased energy by 25% to 2025 (compared with 2011 figures). I conducted 25 participant observations of planning and design meetings, further I interviewed all involved building professionals (members of the housing company and external consultants such as architects, HVAC, EI consultants). The renovation objects come from the post-war period (1950's and 1960's).

Conclusions are that the planning process is structured with pre-defined agendas that makes the process efficient but not flexible. Innovations and alternative ways of thinking have a difficulty to access the process. The building professionals usually selected measures that they have used before. Energy calculations and statistics attracted little interest and had little impact. Experience and tacit knowledge is valued more important. All this leads to a renovation process where energy doesn't get into the process.