Implementation of integrated wireless sensors technology in renovation of social housing buildings. A Danish case study.

Social housing units built in the 1960s and 1970s make up one-fifth of all housing units in Denmark. Their renovation is an important step towards meeting the goals of the national energy road map. Sensors based on wireless technology could be considered a feasible solution to increase occupant’s awareness towards their indoor climate and their energy consumption. In the present experimental study, a framework implementing wireless sensors to monitor energy and indoor climate before and after renovation has been applied in two apartments of a Danish social housing site. In the first phase of the study, the accuracy of some commercially available wireless systems was investigated. This was followed by installation in the field, where occupant behavior (e.g. window opening status) was also monitored. Heating energy data monitored before and after renovation indicated savings of up to 34%.

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