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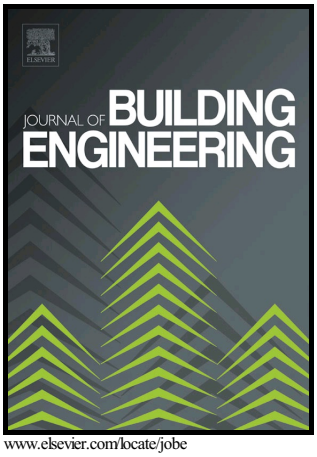

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Abstract

Improving energy efficiency in the UK housing stock has been emphasised for a long time leading to use of various energy efficiency measures in the houses. Eco houses with the integration of low carbon, highly energy efficient and renewable energy technologies aim to achieve desired user comfort and energy saving. Noteworthy that occupant's behaviours are also significant to real life performance of the Eco houses. Present study investigates the occupant's awareness and satisfaction living in the Eco houses. Factors such as indoor air temperature and quality, acoustic, lighting and the control over indoor environment have been investigated. Three main issues have been raised by households: overheating in summer; poor sound privacy; and low quality construction materials. Research has found out that there is strong demand for appropriate lighting and ventilation control, poor usability and awareness of the indoor environment control devices. A gear process is presented to act as a conceptual guidance in improving Eco house performance with the end user's priorities and awareness as well as the embedded technologies.