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Knowledge transfer in design and energy operation of building projects. Achieving sociotechnical transitions towards Zero Emission Buildings through learning.

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Thanks to stricter regulation the Norwegian building sector is currently witnessing that the realization gap - the gap between availability of solutions and their implementation - is starting to close. However, there exists another gap that is revealed *after* energy ambitious buildings are realized: the gap between the building's potential energy performance and its actual performance in daily use. At the same time we also know that in the building sector most energy is consumed by existing buildings and that the replacement rate of existing buildings is only around 1-3% per annum. Hence we face a need to enhance energy efficiency of existing buildings as well as making sure new buildings realize their potential.

Further, energy management of residential buildings is often separated from office buildings: users of non-residential buildings usually have no personal responsibility for the energy consumption, and energy (saving) technologies in non-residential buildings are usually complicated to manage. On the other hand, new residential buildings are likely to contain complex technologies beyond the operation capacity of residents, which may indicate an increasing importance of energy management operators in all sorts of buildings, as well as knowledge transfer between the design/retrofitting and use phase and back. This paper will elaborate on such knowledge transfer processes within The research center on Zero Emission Buildings' pilot projects on office building refurbishment and new family houses.