

WP4.3. Bridging the Performance Gap in building retrofit

Measures implemented in collaboration with our industrial partners

Khoury Jad, Hollmuller Pierre (University of Geneva)

At operational level, counter measures to the performance gap are being implemented on two deep retrofit case studies that reflect current best practice, in collaboration with our industrial partners. The objective is to reduce the observed discrepancy between the predicted and achieved energy savings (energy performance gap), without large investment. A series of optimization measures were conducted by a pool of actors, on the demand of the building owners, with the idea of upscaling the results to other buildings.

Results show that reducing significantly the performance gap is possible through building optimization and responsible behaviour (both occupant and energy operator). After optimization, the achieved fraction of the theoretical saving potential has been increased from 65% to around 80% for both cases (Fig.4). The rest is mainly due to the difference between the standard and optimal conditions of use, in particular the use of optimistic/inaccurate values of the SIA standard for calculating the theoretical savings.

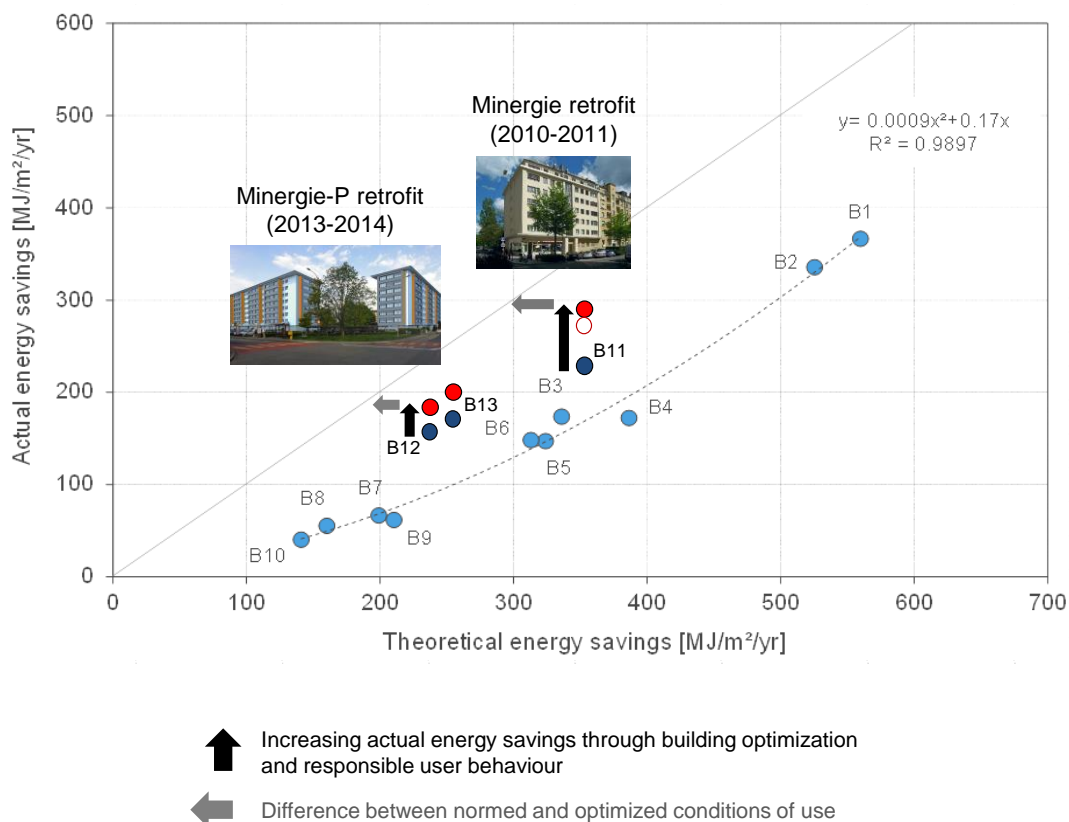


Figure 4: Two examples of optimized buildings after retrofit

In this regard, the question remains whether it makes sense to use this standard method to estimate real energy savings at building level, or to design thermal retrofit strategies and policies, for example within the framework of the Energy Strategy 2050. Note that the main goal of using the standard values is to compare on the same basis the calculated energy use of buildings with the limit and target values. Finally, the study provide guidance on countermeasures and recommendations to bridge the gap and improve the retrofit process.