

## Schillgasse, Vienna, Austria

### Background

This case study consists of two apartment blocks with a total of thirty dwellings. All are privately owned: just over half are owner-occupied and the rest are privately rented.

The heating system was renewed in 2008 and the windows replaced. However, due to the age of the building (built in 1974), major maintenance work was still required. The roof and the façade had been damaged and need reinstating.

Some of the owners were willing to improve the energy efficiency of the building at the same time as the required maintenance work.

### Motivations for retrofit

The need for major maintenance work was the main trigger for residents considering energy efficiency improvements and combining the two makes it more cost effective.

Residents were encouraged further by funding available for energy retrofit in multi-occupancy housing. Other motivations included improving comfort and preventing damp and mould issues that had been experienced by some residents.

Potential energy savings were low due to very low gas prices in Austria at the time of the project; savings were therefore not a key motivation for residents.

### Results

The measures recommended for these buildings were roof, external wall and basement ceiling insulation. Two packages including these measures and the maintenance work were presented and discussed at the resident general assembly.

Through the initial vote, the owners decided that they would like the maintenance work to include energy efficiency measures. A further vote took place a few months later to decide whether to install top floor and the basement ceiling only, or in addition, to include external wall insulation. It was decided to install the top floor and basement ceiling insulation only.

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Street view



View from the yard



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The projected savings for each of the recommended measures are outlined in the table below. In addition to information regarding the measures, all residents received advice on ways to reduce energy consumption through behaviour change.

Measures installed/ recommended	Details	Reasons for installation/ recommendation	Projected annual savings for whole block		
			Kilowatt hours (kWh)	CO <sub>2</sub> (t)	Fuel bill (€)
<b>Top floor and basement ceiling insulation</b> (Measure agreed - installation not yet started)	12-16cm to garage, 6cm to basement	The top floor ceilings are not insulated at all resulting in lots of heat loss and mould in some flats  The basement ceiling is poorly insulated resulting in heat loss and cold floors	76,000	17.9	4,180
<b>External wall insulation</b> (recommended)	12cm; 8cm (fire-proof walls)	Façade needs re-rendering	138,000	32.6	7,590

Table 1: Details and potential savings associated with installed and recommended measures

## Challenges

The main barrier to motivating and engaging residents was that the energy costs were relatively low at the time, and therefore the energy savings low. This was a result of generally low energy tariffs but also due to the recently renewed heating system and windows.

Another challenge was that some residents had concerns about the potential issues associated with building insulation, namely flammability of polystyrene or algae growth.

Other owners weren't interested in retrofit due to the additional costs on top of maintenance work and low confidence in the benefits. It was discussed with residents that calculated consumption can vary from real consumption data, and explained that this could impact the potential savings.

## Successes

This case study demonstrates the significant energy saving potential for these typical 1970's apartment blocks with non-existent or poor insulation on the façade, roof and basement ceiling. In many cases, the windows or heating system have already been renewed, resulting in building insulation appearing less cost effective. Available funding helped to persuade the residents to agree to implementing insulation to some extent. This decision was enabled by the mechanisms of resident meetings and voting.

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