Indoor climate in renovated and energy retrofitted social housing

H. N. Knudsen and Ole M. Jensen Danish Building Research Institute, Aalborg University Copenhagen, www.sbi.dk



It is demonstrated that renovation and energy retrofitting of older social housing, beside reducing the energy consumption and energy bills, provides tenants with benefits like better perceived indoor climate and comfort, lower risk of mould growth and a nicer building appearance.



Worn-down building envelope: leaking roof, eroded facades and leaky windows.

Poor indoor climate, e.g. draught from old cold windows and cold surfaces, poor air quality due to little ventilation and mould growth due to thermal bridges and damp surfaces.



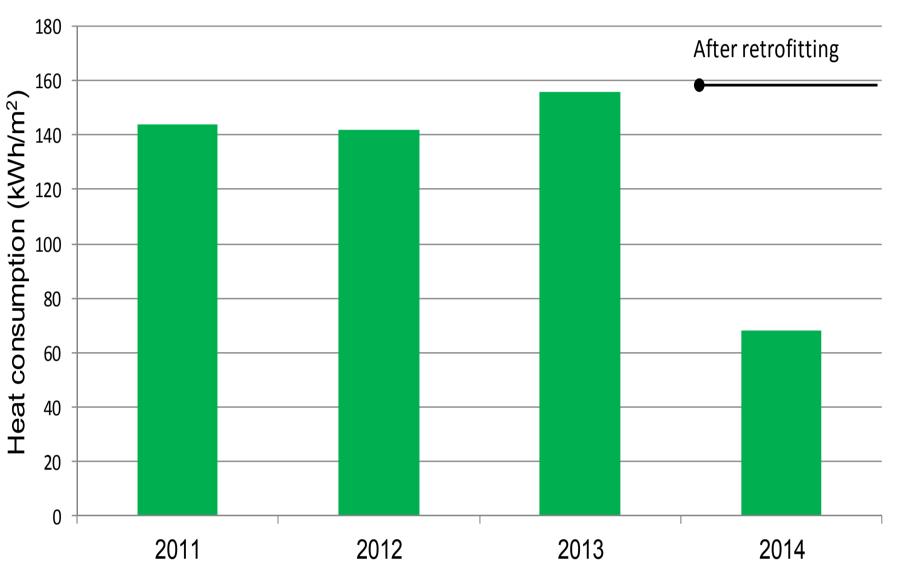
Noise Dust

Reduced Craftsmen

accessibility Untidy

surroundings





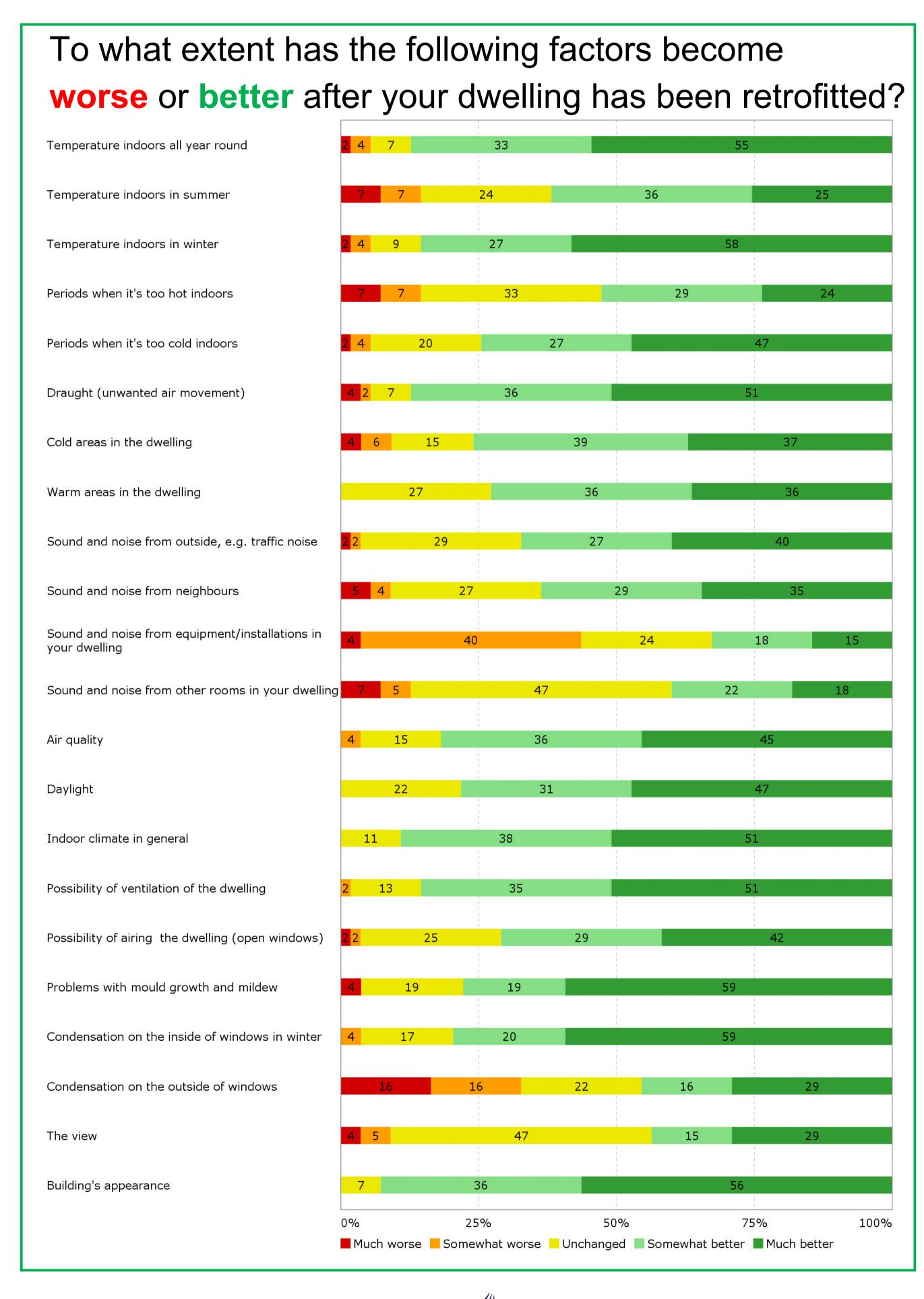
74% of the tenants recommend others to have their dwellings renovated

The objective of the present survey was to evaluate tenants' experiences and satisfaction with renovated and energy retrofitted social housing erected in the 1960s.

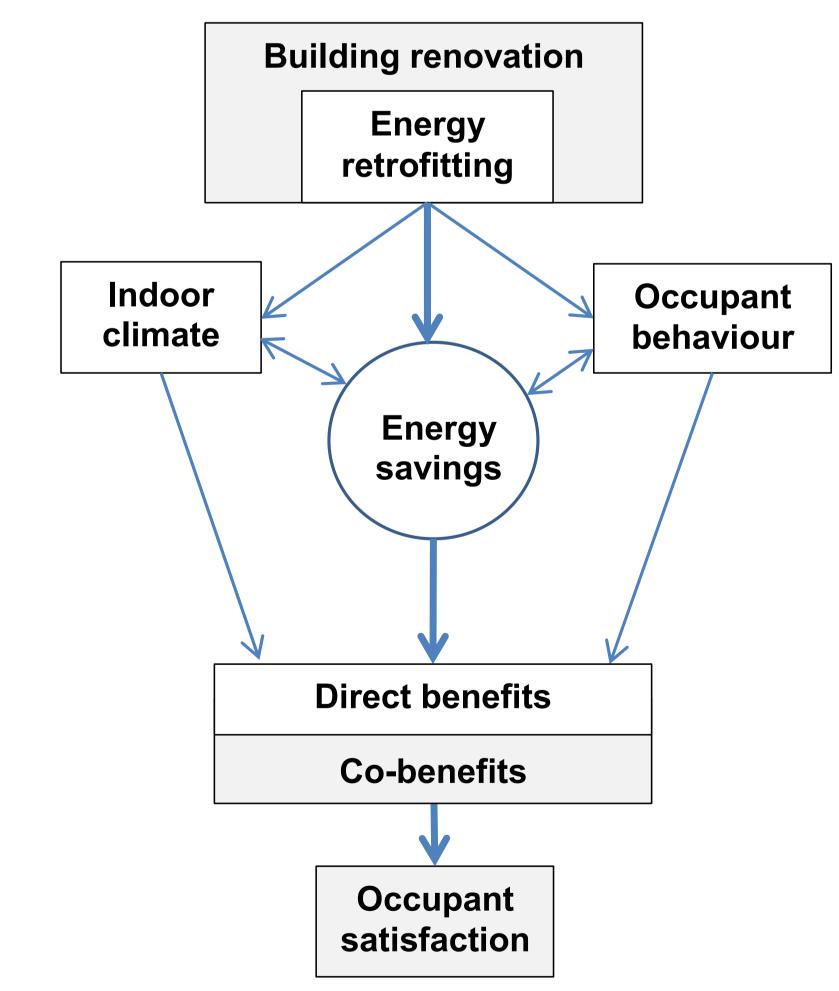
Tenants filled in a questionnaire about overall satisfaction, perceived indoor climate and other possible benefits and satisfaction with the renovation process.

The retrofits:

- Balanced ventilation system with energy recovery
- New end-wall facade with additional insulation
- New entrance facade with additional insulation
- New living-room facade with additional insulation
- Additional insulation of the roof
- Additional insulation of the floor against the basement
- New low-energy windows
- New bathroom
- New kitchen
- Renovation of green areas



The context...



Win-win



