SHARE

Social Housing Action to Reduce Energy Consumption

Case Study 25

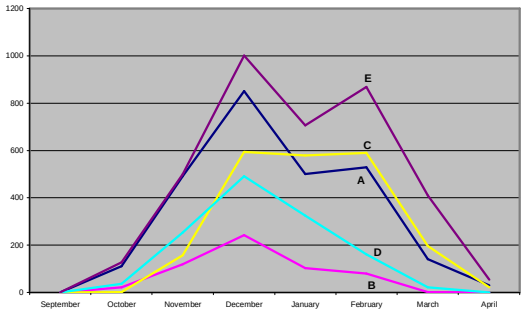
Saving energy for free by following simple advice

On average heating accounts for 70% of the energy used in the home. Studies in EU show that user behaviour can lead to energy consumption 300% higher than the theoretical, calculated value. In non-insulated buildings, user behaviour is of utmost importance to optimise the energy consumption.

As part of ISEES project, funded by Intelligent Energy Europe, Sofia Energy Centre monitored user behaviour related to heat use over the 2006-07 heating period in five similar apartments in a typical block with central heating in Mladost district, Sofia. In each apartment indoor temperatures, window opening and heat consumption were tracked on a daily basis and patterns identified.

The most striking observation was that the heat energy consumption varied significantly (up to 5 times) depending on the occupants' behaviour, since all other factors were similar.
The major observations were:

- The average temperature maintained in the apartments was higher than the norm at 23-24℃, while at the same time the occupants perceived the temperature as lower than they wanted it to be;



Measurement of heat energy consumption in the five flats by months shows five times difference between different flats

- In most cases windows were open for too long periods;
- Temperature was only very slightly decreased at night;
- Unoccupied rooms were heated almost as much as occupied.

SHARE is an Intelligent Energy Europe Project working in eight European areas to develop energy efficiency and low carbon technologies in social housing. For more information about the SHARE project and for other case studies see the project website:

www.socialhousingaction.com

Central electronic registration station

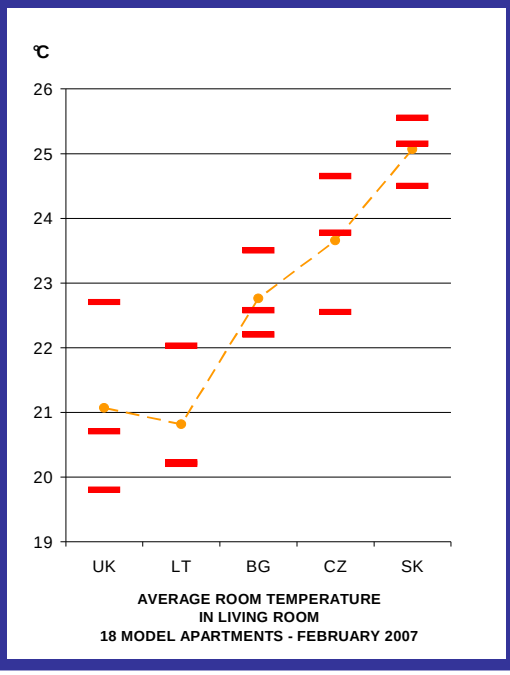
Some simple advice was given to the occupants to optimise heating. The actions recommended were completely free but had significant potential to lower consumption:

- Moving away sofas and other furniture, which were blocking the radiators and preventing heat exchange;
- Advising occupants who were in short sleeves to put on a warm sweater and slippers and turn down the heat;
- Advising occupants who were keeping their windows open for more than 2 hours a day to start ventilating only a few times for 5-10 minutes;
- Advising occupants to stop heating rooms which are rarely used;
- Advising them to decrease heating at night, which saves energy and may in many cases be better for health.

The next visit to the block showed that occupants followed the advice and had reduced their heat energy consumption.

Key conclusions:

- The study showed that residents had relatively high indoor temperatures, significant differences in heat energy consumption, high ventilation factor and relatively bad zoning practice. Thus an enormous energy saving potential was demonstrated.
- Residents' behaviour, awareness of their practices and knowledge of optimal practices can save energy without financial investments. Awareness raising campaigns and simple advice for residents are therefore extremely important.
- The study, part of ISEES project, was carried out in five countries: Bulgaria, Czech Republic, Slovakia, Lithuania and Great Britain and all of them show great energy saving potential.



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