



SHARE

Social Housing Action to
Reduce Energy Consumption



Case study 10



Individual heat metering reduces heating demand by 10-20%

There are several advantages of metering energy consumption in flats that are heated by group or district heating systems. The most important is that the tenants' awareness of energy usage increases which in most cases results in a reduction in energy consumption.

Experience indicates that heat consumption is typically reduced by about 10-20%, depending on the condition of the building. There is a higher saving potential for older houses, mainly those built before 1980, than in new homes with relatively low heating requirements.

Another advantage of metering is that the tenant is able to influence his own costs. The energy consumption levels may vary substantially between different flats and with individual

metering one does not pay for the wastefulness of others.

In the customer-supplier relationship it is important that the measurements are accurate. The Swedish law on metering does not apply in apartment houses if the landlord divides the costs among the individual households, but it must be done in a way that the tenants will accept. The Swedish Union of Tenants has an important role to fulfil in this process.

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

There are two main techniques used – metering of supplied heat (kWh) and metering of comfort (temperature metering).

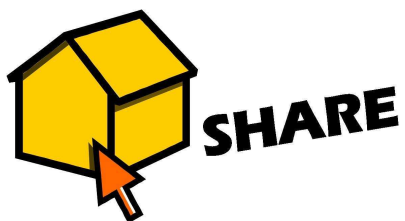
The argument for **metering the supplied heat** is that one only pays for the heat that has actually been supplied to the flat. This method is well established throughout Europe.



A disadvantage is that it does not take into account the heat flows between the flats. The flows may be quite big and the deficiency in the building envelope affects the tenant and not the landlord.

Metering of comfort means that the room temperature is measured and the energy cost is spread according to the temperature. The advantage is that the tenant pays for his actual comfort and the heating cost is not influenced by heat flow rate between the flats.

One of the disadvantages is the possibility of unusually high ventilation levels in practice.



Economic aspects

A simple system costs about € 440-660 per flat but if the tenants are to be able to follow their consumption on a display or adjust the temperature in the flat from a central control it will be more expensive – about €1100-1700 per flat.



The study *"Individual heating metering in blocks of flats"* Rapport EFFEKTIV 2003-05 shows that the energy requirements in a flat depend on various factors, including the desired room temperature, ventilation practice, outdoor climate, thermal characteristics of the building, the position of the flat in the building and incidental gains from the use of electricital appliances.

There is a very distinct connection between the room temperature and the heat transport to/from the neighbouring flats. The aspect of fairness is important but all forms of individual metering reduce the total heating energy consumption as long as the temperature in only one flat goes down.

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