



Mike Trim

# Energy advice for low-income households



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In buildings the interaction of the occupant and the environment is very important in striving for the efficient use of heating. Physical energy efficiency measures are not effective if the occupants of the dwelling are not fully aware of their potential. This demands an appreciation of how to operate the heating system correctly and to the best advantage. It also requires that the occupants are aware of the options for keeping energy bills to a minimum whilst providing suitable thermal comfort conditions. Occupants also need an appreciation of the requirement for ventilation to provide good air quality and eliminate condensation problems, whilst not wasting energy. In addition they appreciate guidance on the relative running costs of household appliances.

## TENANT ADVICE SCHEMES

The information from the monitoring of energy efficient new build and major refurbishment schemes has suggested that the occupants in general were not achieving the full potential advantage from their energy efficient homes.

In two projects managed by BRECSU for the Energy Efficiency Office, an assessment has been made of methods of advising tenants on how to achieve the thermal comfort levels they desired at a

cost they could afford, once the dwelling had been insulated.

The monitoring of these schemes was organised on similar lines to physical monitoring programmes, with one group of tenants receiving advice and a matched group, the control group, receiving no advice at all.

## BOLTON SCHEME

In a scheme in Bolton, locally recruited trained energy advisors visited each household on several occasions, appraised the householder's needs and advised on the most effective way of achieving suitable comfort conditions within their budget. In addition, to reinforce the verbal information the home visits were backed up by leaflets giving general advice on energy conservation and on the use of the heating systems.

The primary impact of the advice was to improve the occupants' understanding of their heating system and their ability to control it to produce the environmental conditions they desired without excessive cost. On the issue of the use of extractor fans in the kitchens and bathrooms those tenants receiving advice changed their patterns of behaviour and used the ventilation systems. Tenants not receiving advice tended to ignore the ventilation provided, with resulting

dampness and condensation problems in both kitchens and bathrooms.

The results of this project show that properly focussed, understandable energy advice has a positive impact on other energy initiatives. The additional energy efficiency measures have increased the value people place on keeping warm and, with the advice they now perceive it worthwhile to spend money on heating their houses. Specific instruction on the control and setting of thermostats and on the best use of timers were the most frequently requested and effective areas of advice.

The programme also helped several families choose payment plans for their energy bills more closely tailored to their needs. This reduced anxiety about being able to afford to use the installed systems.

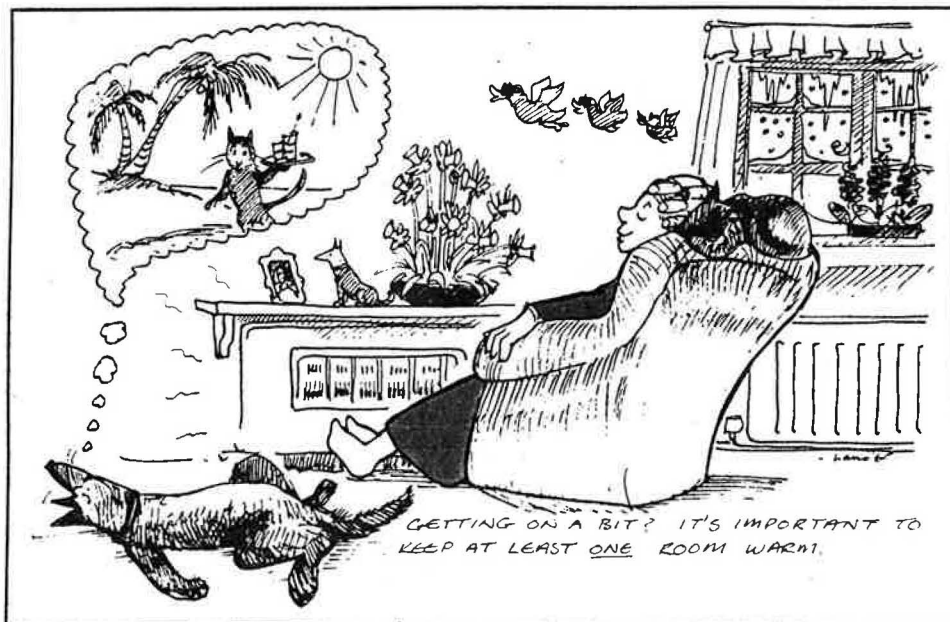
## SECOND PROJECT

The second project was associated with a demonstration project with the Housing Association, Merseyside Improved Houses. Even after energy efficient refurbishment, many tenants were wasting money through poor understanding of their heating system – much of the benefit of the insulation package was lost. Very ineffective use of time clocks and heating controls was observed in a number of houses, and occupants were frequently unaware of the cost of using household appliances. Some were using individual electric or paraffin heaters instead of the new central heating system.

The programme of energy advice comprised fortnightly bulletins and an energy calendar where tenants could record simple electricity and gas consumption data.

Two main points emerged from the two studies:-

- Providing effective advice does reduce tenants' fuel costs, on average by about 10 per cent
- The results, however, were uneven with some tenants saving as much as 50 per cent while other tenants increased their consumption.



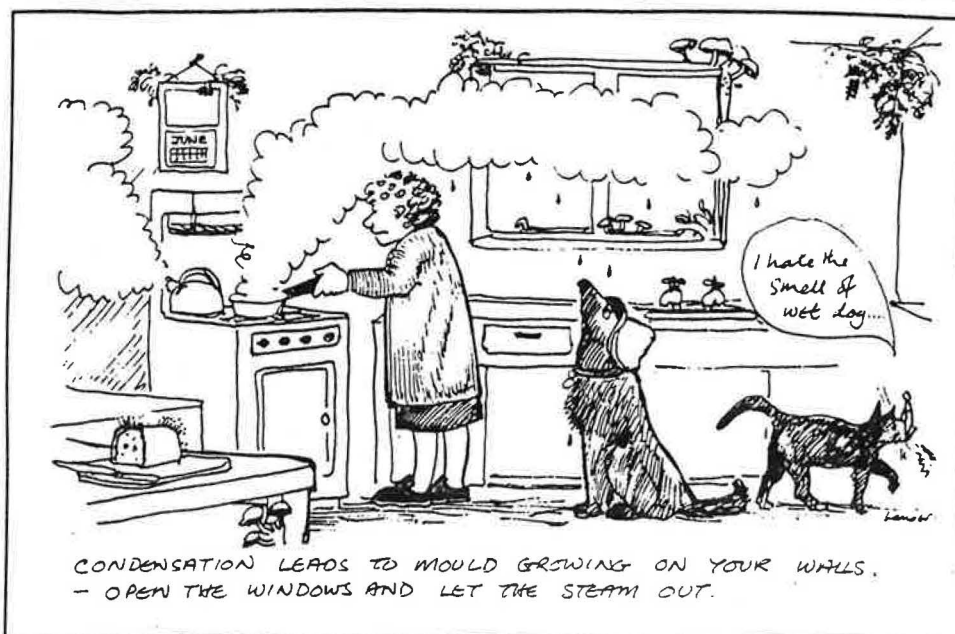
To be most effective relevant advice should be targeted at particular types of dwelling and household. In addition, advice should be geared to the specific situation of the householders. In the past much energy advice has been too general to be of benefit. For example, energy advice and instruction should be provided for tenants moving into their new homes. Housing management staff will need training if the advice they give is to be effective in reducing fuel bills and encouraging better use of heating systems.

### ADVICE SCHEMES

Installing energy efficient measures in housing does not guarantee that they will be used to their maximum advantage. These demonstrations have shown that further energy savings can be made if the occupants are given suitable energy advice. Tenant advice schemes can be a

cost-effective investment ensuring welcome benefits to both the tenant and landlord through energy efficiency. The landlord benefits because the houses are

better maintained and therefore easier to let, the tenants are more content, there are fewer tenant complaints, and there is less likelihood of fuel debt.



### REFERENCES

1. 'Energy Advice to Tenants', Expanded project profile R&D 56, Energy Efficiency Office, Sept. 1988.
2. 'Energy efficient refurbishment of Victorian terraced housing', Energy Efficiency Office Final Report No. ED 227/209, 1988

Details of all the projects are available in the form of project profiles and expanded profiles. These can be obtained free of charge, from the BRECSU Enquiries Bureau, Building Research Establishment, Garston Watford, WD2 7JR, telephone 0923 894040.

## Fabric dyeing techniques (Continued from page 27).

compared to the typical range of 10:1 to 30:1 usually associated with batch dyeing of loose stock wool.

By applying dielectric energy at the dyeing stage, water molecules within the fibre are discretely energised, thereby fixing the dye. Once the excess dye is removed by rinsing, dielectric energy is again used, in conjunction with controlled air movement, to evaporate moisture and dry the stock at an optimum rate. This should ensure that the stock is not over dried as is the case at present.

The machine is designed to operate at a temperature not exceeding 60°C during this operation. Therefore the plant will be much simpler, less capital intensive,

cleaner, more productive and more energy efficient. A number of other benefits are also expected from this new production line. These are:

- quality improvement: tighter control of temperatures will eliminate shade discolouration and yellowing, and contamination between shades will be virtually eliminated;
- an increase of yield on the final yarn;
- no thermal inertia (warm up and shut down being instant);
- reduced chemical consumption;
- reduced labour requirements.

Energy savings worth £40,500/year are expected. Additional savings from the more efficient use of water, chemicals

and labour plus the improvement in yield should give further cost reductions of £134,500 a year. Based on these savings the project cost of £350,000 should be paid back in less than two years.

### Further information

Philip Sharman, the ETSU project officer for textiles and laundries, will gladly answer any queries regarding these sectors. Enquiries of a more general nature should be addressed to the Energy Efficiency Enquiries Bureau, ETSU, Building 156, Harwell Laboratory, Didcot, Oxon OX11 0RA. Tel No: 02 834621. Telex No: 83135.