

Development and testing of room by room energy efficient retrofit guidance and training material for tradespeople and homeowners in the UK
Energy Saving Trust, UK

EU programme supported by Intelligent Energy Europe

A Pilot Project Background & Aims

To test in practice the theory that it is easier to persuade householders to install insulation when they are already doing other refurbishment work, particularly improvements of a single room.

EST research showed that:

- 85% of householders were willing to stretch existing refurbishment budgets to tackle energy efficiency
- It is possible to work towards an effective whole house low energy retrofit by working on a room by room basis



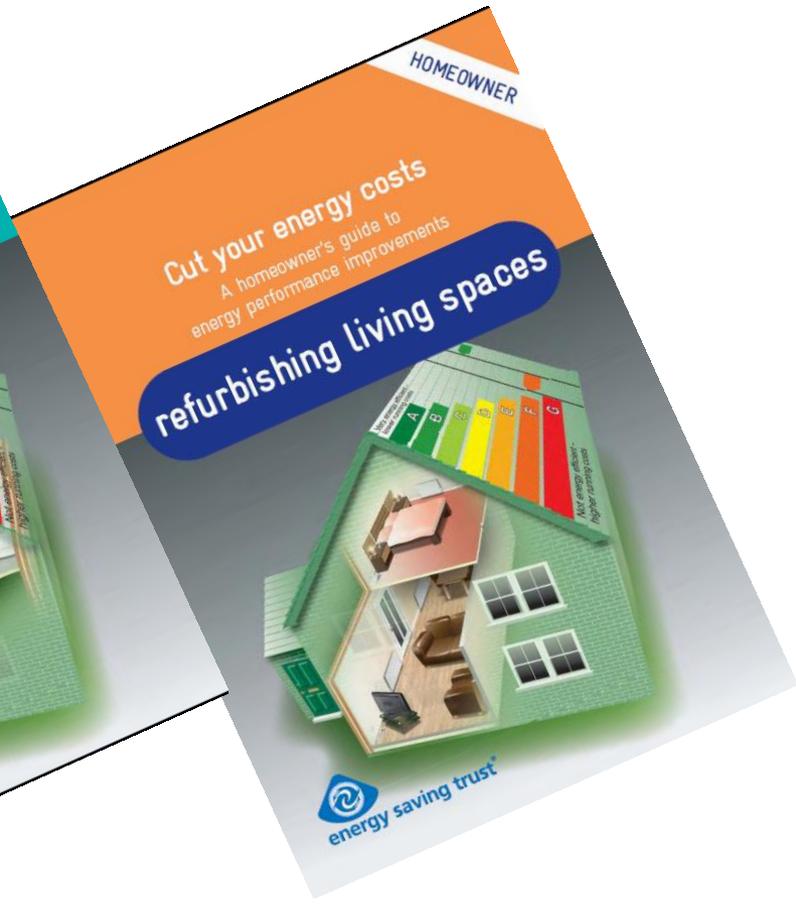
Trigger points: a convenient truth
Promoting energy efficiency in the home



Trigger points guides for trade: kitchens, bathrooms & living spaces



Trigger points guides for homeowners: kitchens, bathrooms & living spaces



R E Q U E S T

Steps to an energy efficient home

The information in this guide may have already prompted you to consider various energy efficient measures to have done when you are upgrading your kitchen. Of course, you will need to factor additional costs into your budget. However, by adding measures at the same time other work is being done allows you to future proof your home against energy price increases.



The kitchen is only one room within your home. Adding energy efficient measures as you renovate each room will increase its overall efficiency – making it more comfortable and gradually reducing your energy bills. In addition, you will also improve the overall EPC rating of your home, making it more attractive to a future buyer. Guides for the bathroom and living spaces will help you achieve this. Other guides in the pipeline include loft conversions, and heating and hot water systems.



The bathroom guide will help you plan renovation work to your bathroom. It will provide information associated with water consumption and factors that need to be considered when replacing showers, baths, taps, and WCs.

The living spaces guide will help you plan renovation work to living areas such as lounge, dining room and bedrooms. You may notice some rooms are colder than others, or susceptible to unwanted draughts. This makes it very difficult to maintain temperatures in the winter. This guide will help you identify ways to reduce loss of heat, thereby making your living spaces more comfortable.



Useful sources of information

Energy Saving Trust advisers can help you with grants and offers available in your area, as well as providing a wide range of advice. See back page for more information. Other useful sources include:

- Find a Builder or tradesperson through the Federation of Master Builders. fmb.org.uk/fab
- The Planning Portal is the UK Government's online planning and building regulations resource for England and Wales. planningportal.gov.uk
- Be inspired by Old Home SuperHome, a network of existing homes that have undergone an energy-efficiency retrofit. sustainable-energy-academy.org.uk

Talk it over with your builder 7

Rooms for improvement

This illustration gives you an idea of what can be achieved throughout your whole house if you were to make energy efficiency improvements in every room.

these savings but attention to detail is vital to attaining maximum performance.

The measures outlined in this guide show the maximum savings. All recommended measures need to be installed to achieve



* Loft conversions
** Heating and hot water system

Assumptions: % savings are the maximum savings that can be achieved. All figures are based on a 3 bed semi-detached house

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B Overview of activities

1. Development of guides:
 - Development of technical data to define standards and potential savings.
 - Using market research and technical data to develop initial builder and householder guides.
2. Research on the design and use of the guides
 - Kitchen guide tested with builders: Builders suggested they needed more in-depth knowledge so EST developed training for builders
3. Dissemination of the guides to 400 builders to attract pilot participants
4. Builders training events
5. Testing the effectiveness of the guides on retrofit projects
6. EPCs, thermal imaging, questionnaires – builders & homeowners
7. Monitoring and evaluation of results

B Types of projects & measures installed

- 7 properties retrofitted using the guides
- Useful to follow a variety of different retrofit projects: kitchen, bathroom, loft conversions and living rooms.
- Variety of measures installed:
 - wall, floor, loft or roof insulation
 - improved glazing
 - low energy lighting
 - energy efficient heating systems
 - low energy appliances
 - Draft exclusion and improving airtightness
- 8 x EPCs pre and 7 x post works, thermal imaging, questionnaires



B Testing and dissemination of guides

- >100k homeowners, 2 x EST advice centres, 400 builders
- 2 x properties had improved EPC scores post works (by 2 points and 4 points)
- Minimal improvements shown in official methodology however compared with modelled improvements
- 8 x thermal images pre and 7 x post works - shows improvements in thermal performance of all properties
- Builders found thermal imaging tests useful - quickly and easily able to identify where problem areas (cold spots) were



B Training

- 55 builders and architects learnt how to use the guides, including on-site tour.
- Training has led to builders improving communications with clients and better information on improving quality of retrofits
- Impact of guides is thought to be much higher when training is given rather than just reading the guides



C Questionnaires: usefulness of the guides

Homeowners:

- 75% (6) had increased awareness/knowledge
- 75% stated guides helped them when making decisions about including energy saving measures in their homes.
- Most would consider installing energy saving measures on future projects rather than the current project now they had this knowledge.
- EPC's did not influence homeowners decisions significantly

Builders:

- 100% said guides help them to explain to customers the advantages of including energy saving products in their homes
- Guides 'add weight' to builders' suggestions of including energy saving measures. Impartial information important aspect too.
- 87.5% found airtightness & ventilation most helpful technical section of the guide
- All indicated that guides helped them to exceed Building Regulations

D Conclusions & Recommendations

- Training: impact of guides can be increased by providing a one-day training session to builders
- Understanding of builders' role in relation to other trades' work on retrofit projects improved with training
- Timing of advice to consumers important: earliest opportunity - planning and researching stage
- Trust between builders and householders is key
- Guides could complement the EPC report: a as a road map to undertaking the EPC recommendations.

D Conclusions & Recommendations

- Trade outlets to stock trigger point guides and incentivise energy saving products
- Change the EPC calculation tool (RdSAP) to be able to incorporate energy savings made to one room:
 - *EST are looking at whether they can develop a room-by-room version of their Home Energy Calculator*
- Estate agents should have information available for prospective buyers:
 - *EST are supporting Haringey Council in development of estate agent packs of information including the homeowner guides for events in Sept & Oct 2012*
- Open Homes events – EST continues to support organisations host events - effective at encouraging visitors to install measures