

## Project: Development and testing of room by room energy efficient retrofit guidance and training material for tradespeople and homeowners in the UK

### EST – Energy Saving Trust - United Kingdom

<b>Aims/Targets/Objectives</b>	To increase the uptake of energy saving measures in planned one-room retrofit projects using dissemination and communication of EST trigger points refurbishment guides targeted at builders and homeowners.
<b>Inputs</b>	Overall budget for the pilot project is approximately €33,600 In addition, staff time from EST
<b>Activities</b>	<ol style="list-style-type: none"> <li>1. Carried out initial research on the design and use of the guides</li> <li>2. Developed refurbishment trigger points guides for 2 different audiences:             <ol style="list-style-type: none"> <li>i) builders</li> <li>ii) homeowners</li> </ol> </li> <li>3. Disseminated guides to:             <ul style="list-style-type: none"> <li>- Housing Professionals via builder partners, builders merchants,</li> <li>- Consumers via EST’s website, newsletter and EST advice line</li> </ul> </li> <li>4. Developed and delivered builders training events on how to use the guides, including practical sessions.</li> <li>5. Piloted the effectiveness of the guides in several one-room refurbishment projects</li> <li>5. Monitoring and evaluation to understand impact of the guides via questionnaires and testing on properties including EPCs and thermal imaging pre and post retrofit.</li> </ol>
<b>Outputs</b>	<p>Four types of ‘room’ guides for each audience of builders and homeowners for:</p> <ul style="list-style-type: none"> <li>• kitchens</li> <li>• bathrooms</li> <li>• living spaces</li> <li>• loft conversions</li> </ul> <p>Over 400 builder guides sent to tradespeople Over 100,000 EST homeowner contacts sent web link to guides 25 interested householders for pilot project 2 EST advice centres trained to give effective advice to householder on trigger points 2 training events delivered where 55 builders were trained how to use the guides including practical sessions on low carbon refurbishment. 8 EPCs issued pre and 7 EPCs issued post retrofit 15 pre &amp; post thermal images 7 evaluation questionnaires from builders and homeowners for both pre and post works</p>
<b>Outcomes/Impacts</b>	<p>Homeowners reported increased awareness of low carbon measures and that guides were influential in the decision making process to install energy efficiency measures and appliances. It was important to target homeowners early on in the decision making process – e.g. when the builder is in giving a quote (therefore builder training described below is ideal) – before they finalise their ideas, and most importantly, their budget. Homeowners reported they would consider the guides for future projects as well.</p> <p>Builders found that the guides took out the ‘hard to convince’ element out of selling energy efficient retrofit measures, increasing trust between builder and homeowners</p>

	<p>and the likelihood of homeowners acting on recommendations. They also thought the guides provided them with good technical and visual evidence of the work required. As a result of the training builders saw their awareness, capabilities, skills and confidence in how to implement energy saving measures. Following the training two builders have reported they are setting up ‘sustainability’ arms of their business and another guide on loft conversions is being made as a result of feedback from the pilot.</p> <p>Although the CO<sub>2</sub> and energy savings following the refurbishments are relatively small as only one room is being improved, over time as a home is updated these small savings will add up to a low carbon home. This approach ensures that the thousands of small home refurbishment projects that take place each year incorporate energy efficiency in a way that is easy and affordable for the householder.</p>		
<b>Performance Indicators</b>	Target Project	Primary energy savings (MWh)	6,540 kWh/yr7,47
		Reduction of greenhouse gas emissions (t CO <sub>2</sub> )	1.46 t CO <sub>2</sub> /yr
	Target by 2020	Primary energy savings (MWh)	29.000.0004.95 TWh/yr
		Reduction of greenhouse gas emissions (t CO <sub>2</sub> )	5.4000.92MT CO <sub>2</sub> /yr

### General description

The main aim of the pilot project was to test in practice the theory that it is easier to persuade householders to install insulation and other energy saving measures when they are already doing other refurbishment work, particularly improvements of a single room.

Research conducted by the Energy Saving Trust reveals that most domestic retrofit activity takes place room-by-room or project-by-project whereas energy efficiency measures in EPC (Energy Performance Certificate) recommendations cover whole-house solutions. However, when home-owners are commissioning work to be done to their homes, our research shows that they want their builder to provide advice on energy efficiency measures. However builders tend to be risk averse and not recommend systems they are unfamiliar with, or cannot guarantee the value.

Based on this premise the Energy Saving Trust has developed a series of ‘trigger point’ guides, which presents homeowners and their builders with the energy efficiency options available to them when they complete the most common retrofit activities (kitchen, bathroom and living spaces). When followed together they will enable homeowners to work towards achieving an EPC band B, in stages.

The advantage of this approach is that it piggybacks on refurbishment work that is already taking place, integrating energy efficiency measures much earlier than they may otherwise happen if homeowners only include them when doing a whole house retrofit (through Green Deal for example). For the homeowner, it’s a way of maximising their refurbishment budget by taking the opportunity to include energy efficiency improvements for little additional hassle and cost. For builders, by promoting energy efficiency they can come across as knowledgeable and helpful.

#### Development

The initial focus was to develop a series of guidance documents aimed at tackling the short fall in SME builder’s and householder’s knowledge in energy efficiency refurbishments projects. Initial research was carried out on the retrofit market including frequency of household refurbishments, householder’s propensity to include energy efficiency measures in their refurbishment, and builder’s attitudes towards energy efficiency. Based on this the trigger point guides were developed and the first guide was tested in a focus group of builders and feedback from this group helped improve the following guides, create training material and help frame the pilot projects.

#### Dissemination



The Energy Saving Trust worked in partnership with the Federation of Master Builders (FMB) throughout the pilot project to communicate with their building professionals members. To find suitable renovation projects for the pilot project, the builder's guides were distributed to a selection of 400 FMB building professionals members along with a cover letter with information on the pilot project and how to participate. Home-owner guides were also included, to encourage builders to use them with their clients. Staff within a chain of Robert Price stores in Wales was trained on the practical measures recommended for each retrofit project so that they could promote this approach to their clients.

The home owner trigger point guides were sent to a selection of home-owners via our EST energy advice network and email newsletter. The Energy Saving Trust's advice team in Wales and London are part of a nationwide advice service on energy efficiency and renewables were trained on trigger points and promoted the approach when advising consumers.

Two training workshops were delivered for building professionals on how to use the trigger point guides effectively. These sessions included technical and practical sessions on achieving high quality retrofits focusing on airtightness and thermal bridging that are covered in the builders' guides. A site visit followed, giving attendees the opportunity to link the theory with practice.

### Testing & Evaluation

Following these events, 13 builders signed up to take part in the pilot project, and using the information from the training events and the trigger point guides, spoke to their clients to encourage them to install energy efficiency measures. Of these, eight homeowners wanted to install measures and had one-room projects (rather than whole house). Seven of these eight refurbishment projects have been completed in London and the south east with tests carried out pre and post refurbishment including EPC assessments plus thermal imaging where relevant to establish carbon savings. Questionnaires were also completed by builders and homeowners to assess how much of an impact the guides had on their projects as well as gauging levels of awareness.

### Conclusions

**Builders were identified as a key driver for energy efficiency** as they demonstrated persuade householders to take up energy efficiency measures. Particularly in room-by-room renovations, a householder is likely to only consult a local builder to cost the work and therefore the opportunities to raise awareness and influence decision making on energy efficiency are limited.

**Training for builders** on how to use the guides greatly increased the benefits of the guides and their success in increasing the uptake of energy saving measures and ensuring these measures are specified and installed to high quality standards. Builders are able to see the advantages to their business of knowing more about energy efficiency.

**Trust and reputation** are key factors when builders describe their experience in trying to influence homeowners to include energy saving measures in their retrofit plans.

**Trigger points guides could be made available in trade outlets** as it would be useful for builders to be able to take them away, along with copies of the homeowner guides

**Target homeowners early on** to encourage them to include energy efficiency measures in their renovation projects. Preferably when they first start planning and before they have finalised their budget. Innovative ideas such as Open Homes events, could help to overcome some of the trust and awareness barriers.

**Value small improvements** by ensuring that the EPC can take account of room by room improvements. The UK's current software (RdSAP) cannot currently do this.

**More evidence needed on actual energy and money saved from measures** as both builders and homeowners stated that they needed more assurance that low carbon measures will deliver the predicted energy savings.