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Executive Summary

Improving the energy performance of existing homes is an essential element in dealing with the challenges of climate change, fuel poverty and security of energy supply, with home energy use accounting for more than a quarter of final UK energy consumption. All buildings need to move towards being 'zero carbon', compensating for other sectors where it is even more difficult or less cost-effective to reduce emissions. As we are replacing buildings very slowly, this will only be achieved by retrofitting existing ones.

The UK housing stock is old and inefficient, with a wealth of architectural detail, and regional and local variation in design and materials. Future-proofing it requires a complex mix of measures, and effective integration of retrofit technologies into existing buildings and building services. With around 65% of UK homes owner-occupied, a major challenge is that of motivating homeowners to invest in such improvements.

There is untapped potential in the trigger-point opportunities to include energy improvements in other work offered by general home repairs, maintenance and improvements (the RMI market). This is a significant area of economic activity, a large proportion of which is delivered by micro enterprise and sole-trader building tradespeople. The homeowner's need or wish for such works offers a 'route to market' for energy improvements, and the associated costs and disruption may become relatively marginal when combined with other works.

Despite the vital importance of building trades micro enterprises in achieving low carbon retrofit, their views are rarely heard within policy debates. These micro enterprises usually fall outside of trade organisations and 'green-focussed' accreditation schemes, are mainly active at a local level, and little is reported about what drives their professional behaviours. As the first point of contact for many homeowners who want building work done, they have a great deal of potential to influence these customers, and a huge wealth of knowledge to bring to retrofit. They could be the frontline in communicating, selling and implementing energy improvements.

The key
to unlocking
low carbon retrofit
in private housing

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This research collected in-depth qualitative data from building tradespeople on the issue of making energy improvements to existing homes. We asked them for their perspective on this issue, and about their working practices, such as geographical range, sources of information and knowledge, and how tradespeople linked with each other. The majority of the research participants were either self-employed sole traders or in a company with less than 5 employees, and were working mainly in rural communities and towns, rather than big cities.

CONCLUSIONS AND RECOMMENDATIONS

The fragmented nature of both the industry and its direct customers makes it a particularly difficult area to reach for national policy makers, but it need not be difficult to reach for policy. The scale of activity within this sector and its unique access to knowledge of, and decision making about, the buildings that constitute the private housing market, make it a vital area for policy and action.

In talking to building tradespeople about their work, a picture of a localised, knowledgeable and connected system has emerged. Each element of this system can either increase or limit the potential of RMI work to deliver low carbon homes. We offer the following ideas for policy and practice, rooted in our research findings, to make sure that the system works effectively for a low carbon future.

Develop policy which supports localised action

Key to success in low carbon retrofit is recognising and understanding the local and small scale nature of the RMI construction industry. It is crucial that policy and practice go with the grain of the good practice that many are already undertaking, and builds upon the knowledge and skills that exist at local level. Keeping work local has social, environmental and economic benefits, ticking all the boxes for a sustainable economy.

Local informal networks are an important route for learning about new products and methods. These networks are routes to influencing practice, particularly along the supply chain and between trades. The characteristics of networks make them a positive enabling factor in moving towards deeper retrofit. In seeking routes to disseminate information and innovation, policy needs to reflect and build on the reality of the business and social networks that operate at local level, rather than attempting to impose top-down structures.

Design programmes for energy efficiency in buildings to engage the existing, locally active, RMI industry in maximising the inclusion of energy improvements in general building works

RMI work (in rural areas at least) is characterised by micro businesses working at a very local level, getting their work through social and neighbourhood networks and personal recommendation, with benefits to the tradesperson as well as the customer in terms of avoidance of time-wasting and other risks. The very local nature of building trades RMI activity indicates a good fit with local delivery of integrated energy efficiency schemes, including energy advice and assessments, and community-scale awareness raising and partnerships.

Match consumer protection with small business protection


Not all micro enterprises are planning for growth. Maintaining business activity at local level is a positive outcome. Policy and guidance around consumer protection should be matched by, and consistent with, policy and guidance for the small business, so that both parties are protected and enabled to provide what the other needs.

For example, there are potential benefits to customers and tradespeople to working on a day rate, with the customer paying directly for materials, rather than to a fixed quote, and this should not be seen as an indication of an unprofessional approach. Similarly, running a business at less than the VAT threshold should not be seen as an indication of poor quality or business instability, but taken at face value as a business with a small turnover, maintaining low overheads by keeping administration as simple as possible. Guidance for both businesses and homeowners on pricing options and payment arrangements could help avoid problems and misunderstanding.

Effective economic development policy must acknowledge the strength and resilience of the micro enterprise and the informal network as a positive response to economic insecurity.

Develop advice services that can provide independent, expert advice to both homeowners and builders to support them through all stages of the retrofit journey

There is a need for new knowledge and exchange at all levels and amongst all key actors involved in potential



retrofit work. Builders as well as homeowners would benefit from access to expert, independent and practical advice from a trusted source, at all stages of the process of getting building works done. This would support tradespeople in being able to influence customers to take up energy improvements, and help to avoid customers being confused by contradictory advice from different contractors.

Advice provision should include good quality home energy assessments. While these will need to be subsidised for low income customers, they should also be realistically priced so that it is possible to deliver them accurately and professionally, with information made available to explain differences in price for more complex assessments. Public promotional activity should avoid devaluing energy assessments by suggesting they are 'free', unless public sector funding is envisaged; where energy assessments are offered as a free or low cost service, any subsidy or private commercial interests involved should be made transparent.

There is also a need for accessible information for tradespeople and homeowners about how to avoid risks and potential problems that may arise in relation to retrofit.

Identify and support good practice for suppliers to enable small and micro companies to use their products: guarantees, training, site-specific and follow-up product support

Suppliers of energy efficiency materials and products should be encouraged to develop the capability to provide training and pre- and after-sales services to micro enterprises and for smaller projects and not just major developments. This might be arranged through a local or sub-regional clustering arrangement, to make it more cost-effective, perhaps facilitated by local authorities.

Identify, support and disseminate good practice in communications within retrofit and RMI

Both general RMI work and retrofitting energy improvements can involve a number of different people and roles, and the effectiveness of communications between them is key to ensuring the best results, in terms of decisions, details, quality, shared learning and customer satisfaction. For example:

- **Clear and accessible guidance for homeowners and builders on what roles need to be covered within a**

building project and by whom, including the overall design of a project, the detailed specification, and the management of the work. A simple approach might be a checklist of who will do what at the start of a project, to avoid misunderstanding or omission.

- **Protocols for regular on-site communications** to develop solutions, and amend design and specification, to take account of issues that arise during the project. These need to be agreed and understood by all involved through ongoing dialogue.
- **Protocols for including the costs of time for such communications** for all the trades as well as designers, especially where a higher standard is expected (such as in a Passive House build) or where newer or different technologies are being installed (such as heat pumps).
- **Support from manufacturers and suppliers for sharing knowledge and understanding on energy retrofit tools and techniques**, through approaches such as two-way 'toolbox talks' and on-site briefings, as well as site-specific advice on specifications, to enable wider application of energy saving products.

Review the structure, cost-benefit and impact of private market accreditations

Private market-run accreditations without public sector endorsement can create confusion in the market and add cost to the customer and the tradesperson without ensuring quality. The time pressures resulting from the additional paperwork requirements may even contribute to driving down quality. Particular attention is needed to the risk of reducing the realisation of trigger-point opportunities by limiting the range of technologies that general building tradesman are able to deliver.

Accreditations for installing energy saving products should be streamlined and integrated within statutory regulation. Public information must clearly explain the status of different accreditations, so that customers can differentiate between what is essential and what is a desirable 'extra', and why.

Accreditation systems should be reviewed to ensure no overlap, minimal paperwork and adequate monitoring of the actual quality of work. Accreditation processes should encourage rather than discourage the ability of micro enterprises to offer multiple technologies.

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Use Building Regulations to enable and ensure change, and refresh and re-invigorate Building Control, integrating with local Planning to ensure consistency

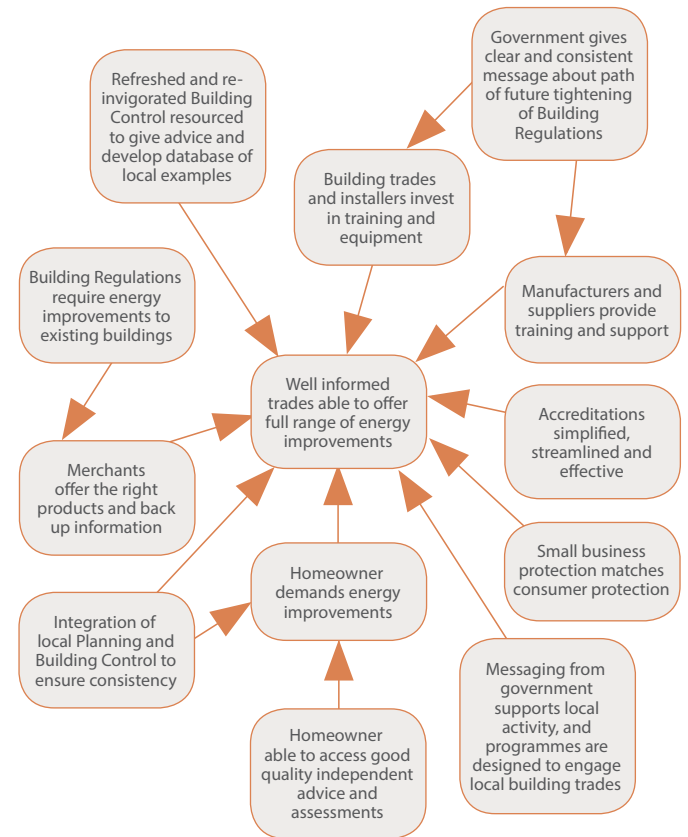
Building Control must be effectively resourced and authoritative, and this requires consistent application of credible Building Regulations. Any private provision of Building Control services must be carefully controlled to ensure a level playing field for projects.

The use of Building Regulations to move towards lower carbon and lower energy building is widely understood and accepted. The development of Building Regulations to ensure this should continue along an established path, in a planned and consistent way, following a clear and well-communicated long term plan, covering both new buildings and retrofit of existing buildings, and specifically aiming to increase the take-up of energy improvements within RMI. This will enable building trade companies and specialist installers to plan and invest accordingly in training and equipment.

There is a need for a more consistent and coherent approach by Planning and Building Control working together to avoid any contradictory messaging. Rebuilding and enhancing this joint capacity at local level would provide a local service that communicates, enables and polices good quality low carbon and low energy housing refurbishment, as well as new building.

The local knowledge embodied in Building Control could be more fully utilised, for example in the provision of advice and information services at local level. Building Control and Planning personnel need real practical experience on site as part of their training in order to be fully effective.

The provision of locally accessible advisory capacity could be further enhanced by the development of local databases of good practice examples of energy efficient renovation of period properties, highlighting opportunities to make energy improvements during RMI work. This could also be used by builders as a reference to show customers and encourage them to consider different options.



Low carbon retrofit – a recipe for success

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