FEDERATION OF MASTER BUILDERS

Est. 1941

Delivering Healthy, Comfortable, Net Zero Housing

Insights from FMB member construction firms

July 2024


THIEVES
BEWARE
20

Executive summary

There is an urgent need to upgrade the UK's homes, improving their energy performance to make them comfortable and affordable to run, at the same time as reducing carbon emissions in line with climate policy.

Construction firms and installers of home energy systems are vital to achieving these goals, but their voices are rarely heard, because this is a group who are too busy, and too disconnected from policy, to represent themselves in the fora where policy is developed.

A survey of 200 small and medium enterprises (SMEs) in construction was carried out in November 2023, providing a nationwide snapshot of these SMEs' perspectives on the market for decarbonising homes in the UK.

Authors:
Professor Alice Owen, Sustainability Research Institute, University of Leeds
Professor Gavin Killip, Nottingham Trent University

Key findings

1. There is **low consumer demand for work to reduce the carbon impact of existing homes**, with consumers typically showing little or no interest in energy efficiency or low/zero carbon technologies (LZCTs).

2. When firms work on **new-build projects, client interest in energy efficiency and LZCTs is stronger** than for projects in existing homes.

3. Firms' reported **confidence* in their own ability to answer customer queries and deliver energy-related works is higher than** the amount of consumer interest reported.

4. **Smaller firms are markedly less confident than larger firms** in their ability to answer customer questions about energy and deliver energy efficiency and LZCTs on projects.

5. Builders have **confidence they will meet market demand** for retrofitting, should it increase. **However, this confidence highlights the need for clear, robust standards of competence to ensure quality delivery**.

6. Small construction firms have **clear preferences for the kind of training that works** for them, **which may not be sufficient to ensure that quality criteria are met**.

7. Firms identify several barriers to energy efficiency and LZCTs, with the **most frequently cited barriers being high costs and low consumer demand.**

8. **Cost barriers include the additional time and labour required to increase competence**, not only technology costs.

9. Many construction firms **rely on regulation or design** by others to guide their work, where such regulation or design exists.

10. Many firms believe that **it is easier to incorporate low carbon concerns into new build compared to Repair Maintenance & Improvement (RMI)** because the regulatory position is clearer.

*It is beyond the scope of a short survey like this to evaluate competence, which is why questions were framed in terms of self-reported confidence to answer queries, offer advice or deliver projects. None of the survey responses should be taken to indicate robust evidence of competence.

Why is this research important?

There is an urgent need to upgrade the UK's homes, improving their energy performance to make them comfortable and affordable to run, at the same time as reducing the carbon emissions associated with heating and cooling those homes.

Construction firms and installers of home energy systems are vital to achieving these goals. Without sufficient skilled tradespeople, willing to undertake work improving home energy efficiency and installing low carbon technologies, policy targets will not be met and a substantial proportion of the UK's 30 million homes will not realise the potential for our housing stock to be healthy, low carbon and affordable to run[1].

It follows that there is a strong case for the voices of those firms to be heard in both energy policy and business policy as it relates to construction and innovation. And yet those voices are rarely heard, because this is a group who are too busy, and too disconnected from policy, to want to, or be able to, spend time responding to consultations or representing themselves in the fora where policy is developed.

1 Killip G, Fawcett T, Jofeh C, Owen A, Topouzi M, Wade F. 2021. *Building on our strengths: a market transformation approach to energy retrofit in UK homes. Available at* https://www.fmb.org.uk/resource/building-on-our-strengths.html

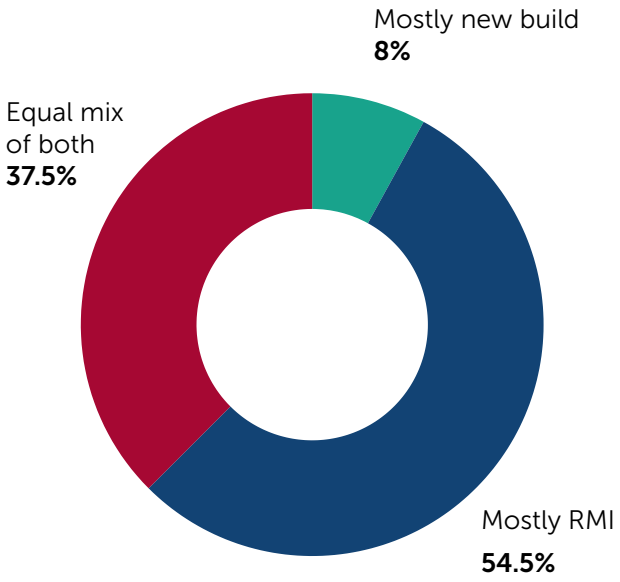
How was the data gathered and analysed?

A telephone survey of 200 Federation of Master Builders (FMB) members was carried out in November 2023. The survey consisted of nine short questions, designed to take ten minutes or less to complete in total. An incentive to take part was offered in the form of entry into a prize draw for £300 worth of tools. A team of researchers made more than 6,500 calls in a three week period to gather 200 responses, a response rate of approximately 3%. This illustrates the challenge of reaching this important, but busy, group of stakeholders. However challenging, it is also an approach that has yielded the largest survey of small building firms on energy-related themes that we are aware of.

The survey design was shaped by two considerations: the need to ask questions that could be answered during a short phone call without requiring any recourse to additional information, and the wish to gather builders' personal perspectives so that these could be represented. These perspectives are important for shaping effective policy because builders and contractors are advisers to their clients and their peers, as well as being responsible for the delivery of projects and they therefore shape the impact that those projects have on home energy performance. What this group believe is possible, or important, will directly affect what the construction trade achieves. Survey respondents were asked about their perceptions of attitudes towards 'energy efficiency and low carbon technologies (e.g. heat pumps, solar panels)'. The survey deliberately avoided referring to 'retrofit', which can be a poorly understood term, focussing instead on the reductions in energy consumption and carbon that can be achieved through general construction activity.

Figure 1:

How the 200 survey respondents split between different types of work undertaken.



There are, inevitably, biases to recognise in this research data. A telephone survey with busy people earning a living does not allow for nuanced questioning, digging deeper into the reasons why answers are given, or challenging self-reported perceptions of competence. Because FMB has their contact details and permission to use that information, only FMB members were contacted. Despite being the largest construction trade association for Small and Medium Enterprises (SMEs), there are many construction firms who are not FMB members. Those non-members are not represented in the survey. The sample of 200, while hard to obtain, is nonetheless too small to draw any statistically significant conclusions. The survey results should be seen as an indicative snapshot of the views and lived experience of a subset of SMEs in construction. This is a community of people whose role is central to policy delivery but who are 'hard to reach' in policy development terms.

The sample reflects views from across the UK, with 20 responses from each of the FMB's ten regions: Scotland, Wales, Northern Ireland, Central, London, Southern Counties, South West, Northern Counties, North West, Yorkshire & Trent.

The FMB represents nearly 7,000 construction firms, most of whom are SMEs. FMB members undertake projects in both 'new build' and 'repair, maintenance and improvement' (RMI). RMI covers a broad range of activities including renovations and extensions as well as smaller room refurbishment or installation of specific items such as insulation or changing heating systems. The survey sample gathered insights from firms working in both sectors, although more than half the sample worked mostly on RMI projects, as shown in Figure 1.

The term "Small and Medium Enterprise" (SME) covers a wide range of different types of firms. Micro-enterprises dominate RMI activity and also dominated this sample. Nearly three quarters of the firms surveyed (72%) were either small traders or micro-enterprises employing seven people or less, as shown in Figure 2.

Figure 2:

Survey respondents split by firm size

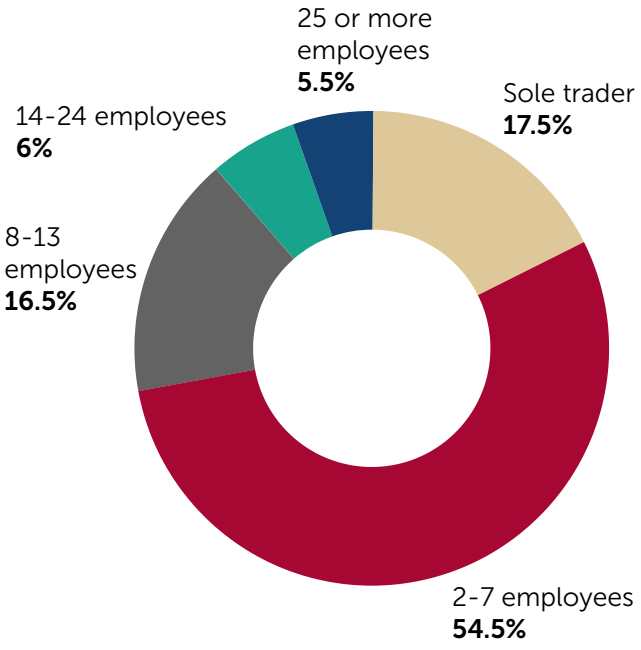
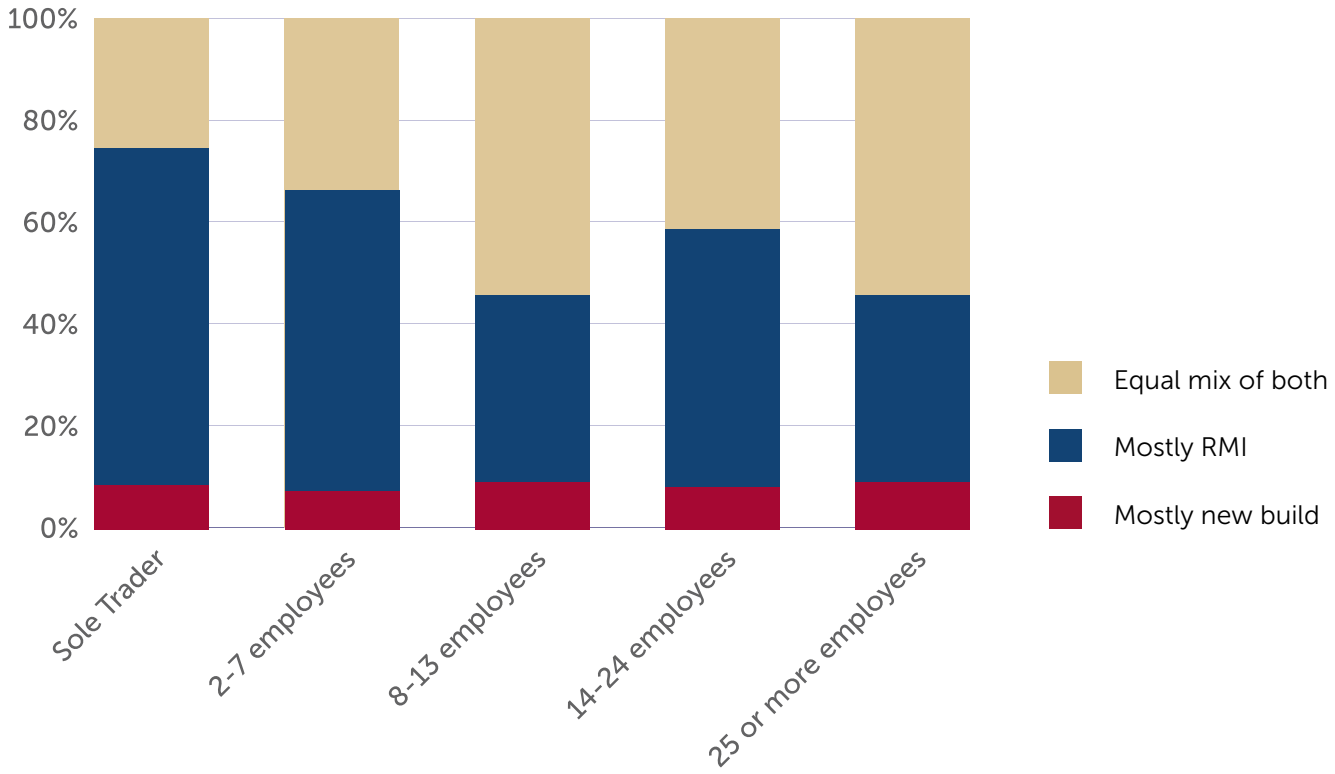


Figure 3:

Survey respondents split by type of work undertaken

Figure 3 shows that, in this sample, RMI projects are a larger focus of work for sole traders and firms employing 2 – 7 people.



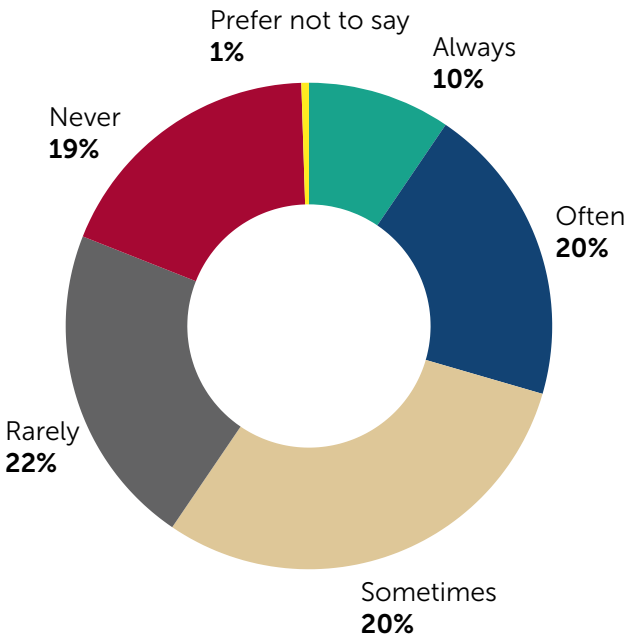
Insights from the data

1. There is low consumer demand for work to reduce the carbon impact of existing homes, with consumers typically showing little or no interest in energy efficiency or low/zero carbon technologies (LZCTs).

Survey responses indicated there is a relatively low level of client interest in these issues, with less than one third (29.5%) of firms reporting that their clients 'always' or 'often' asked about energy efficiency or low carbon technologies, and a greater proportion (40%) saying they were 'rarely' or 'never' asked about these issues, as shown in Figure 4.

Figure 4:

Frequency of clients asking about energy efficiency and low carbon technologies (e.g. heat pumps, solar panels)



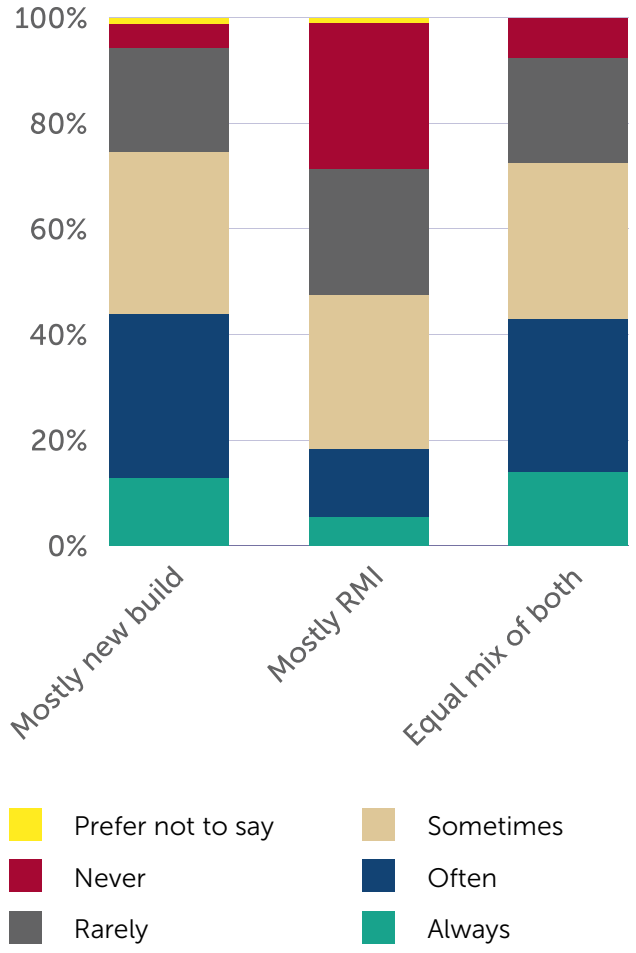
2. When firms work on new-build projects, client interest in energy efficiency and LZCTs is stronger than for projects in existing homes.

Splitting these responses between the sizes of construction firm fielding queries from clients, it is noticeable that firms specialising in RMI are least likely to be asked by their clients about energy efficiency and low carbon technologies. As shown in Figure 5, just 5.5% of firms surveyed in this sector saying that clients 'always' asked them about energy and carbon, compared to 12.5% in in firms who specialise in new build, and 14.7% for firms who carry out a mix of both RMI and new build projects. Similarly, RMI-focussed firms reported that more than one in four clients (27.5%) 'never' asked about energy and carbon, compared to less than one in ten clients for firms in new build or a mixture of projects.

The implication of this data is that measures are still needed to increase customer demand for energy efficiency and low carbon technologies. This might mean a national consumer information campaign to debunk some of the myths about the costs and impacts of such projects, and reforming the Energy Performance Certificate (EPC) so that householders have an understanding of how RMI measures might change their EPC rating, with the EPC offering more diagnostic information of what is needed in a home. There is also a need to level the playing field between new build and retrofit projects, which could entail, for example, an expanded and simpler VAT scheme for retrofit projects.

Figure 5:

Frequency of clients asking about energy efficiency work split by the type of work undertaken by the firm



3. Firms' reported confidence in their own ability to answer customer queries and deliver energy-related works is higher than the amount of consumer interest reported.

FMB members surveyed were more likely than not to be confident in responding to queries on energy efficiency and low carbon technologies, with 68% reporting that they were "very confident" or "fairly confident" they could reply to such queries, as shown in Figure 6.

Similarly, a clear majority of surveyed firms (78.5%) were 'very' or 'fairly' confident that they could deliver a project involving energy efficiency and low carbon technologies, as shown in Figure 7. The confidence in being able to deliver is higher than the confidence in answering queries, reflecting a general attitude in builders that they will respond to clear direction, requirements and specifications, but do not necessarily see that they have a strong a role in determining that direction, requirements or specification.

These responses suggest that construction firms would respond positively to clear, consistent, long term national policy and technical guidance, regularly updated, on energy efficiency and low carbon technologies, particularly where existing housing stock is concerned.

4. Smaller firms are markedly less confident than larger firms in their ability to answer customer questions about energy and deliver energy efficiency and LZCTs on projects.

Confidence in being able to deliver a project involving energy efficiency or low carbon technologies is highest in larger firms, as shown in Figure 10, where 91% of firms employing more than 25 people felt 'very' or 'fairly' confident in their ability to deliver projects which involved energy efficiency or low carbon technologies. While the

Figure 6:

Confidence of surveyed firms in their ability to answer client queries related to energy efficiency and low carbon technologies.

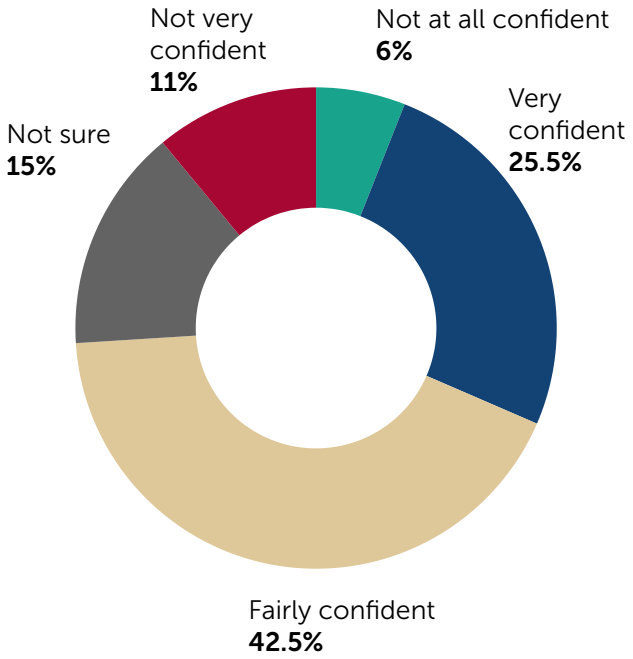
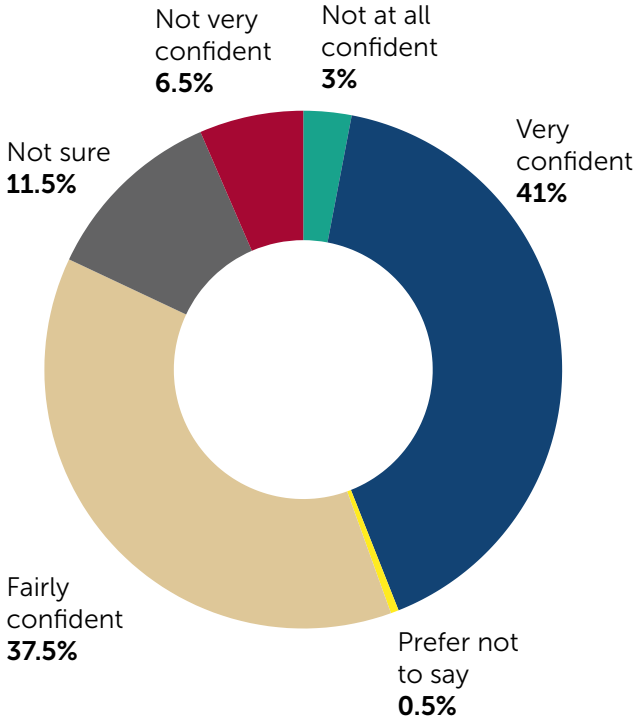


Figure 7:

Confidence of surveyed firms in their ability to deliver projects involving energy efficiency and low carbon technologies.



reason for this cannot be determined from the survey responses, one potential explanation of this higher level of confidence is because larger firms may be able to draw on a diverse set of specialist skills and individuals.

The sample size does not allow any claims of statistical rigour, but larger firms in the sample do seem to be more likely to have clients who ask them about energy efficiency and low carbon technologies with 58% of firms employing 14-24 people saying they 'always' or 'often' received such queries. Similarly, larger firms are more confident that they can answer client queries about energy efficiency and low carbon technology. Firms employing more than 25 people never reported being "not very" or "not at all" confident in replying to client queries on these topics. This might reflect the opportunities to develop and specialise across different individuals in a slightly larger firm.

However, sole traders and smaller firms undertake a huge amount of the RMI work where improvements in energy efficiency and low carbon technology are urgently needed. This is a sector that needs to be supported and enabled to create high quality virtual enterprises developing from existing place-based networks.

5. Builders have confidence they will meet market demand for retrofitting, should it increase. However, this confidence highlights the need for clear, robust standards of competence to ensure quality delivery.

The firms surveyed were confident that they would be able to respond to an increase in market demand, primarily through developing the skills of the existing workforce although with the potential to increase the number of people employed as well.

Confidence is not the same as competence, and it is not possible to assess competence through a survey of this kind. Other research has shown that there is a considerable 'performance gap' between what the energy efficiency that a design or specification says can be achieved, and what is actually achieved. Routine evaluation of energy performance after project completion, with feedback to the contractor as well as the building occupier, would start to make actual energy performance better understood and increase industry learning about how to reduce that performance gap. Even so, assessments of actual energy performance need to be underpinned by an accepted suite of standards, developed by experts and backed by government, rather than developed solely within the construction industry with the expectation that the industry can or should self-regulate.

6. Small construction firms have clear preferences for the kind of training that works for them, which may not be sufficient to ensure that quality criteria are met

The confidence in being able to deliver a low carbon project, if a client asks for it, indicates what we know from research elsewhere[2]. Builders want to learn on the job, by tackling real problems. But learning 'on the job' also entails real risk for them in financial and reputational terms, if there is not a structure of support, mentoring and snagging/corrective measures all as part of a funded package.

When training is left to the discretion of individual firms and workers, it should come as no surprise that they choose what works best for them at the moment. However, what works for firms today in the current economic and political context may not be what is needed in future[3].

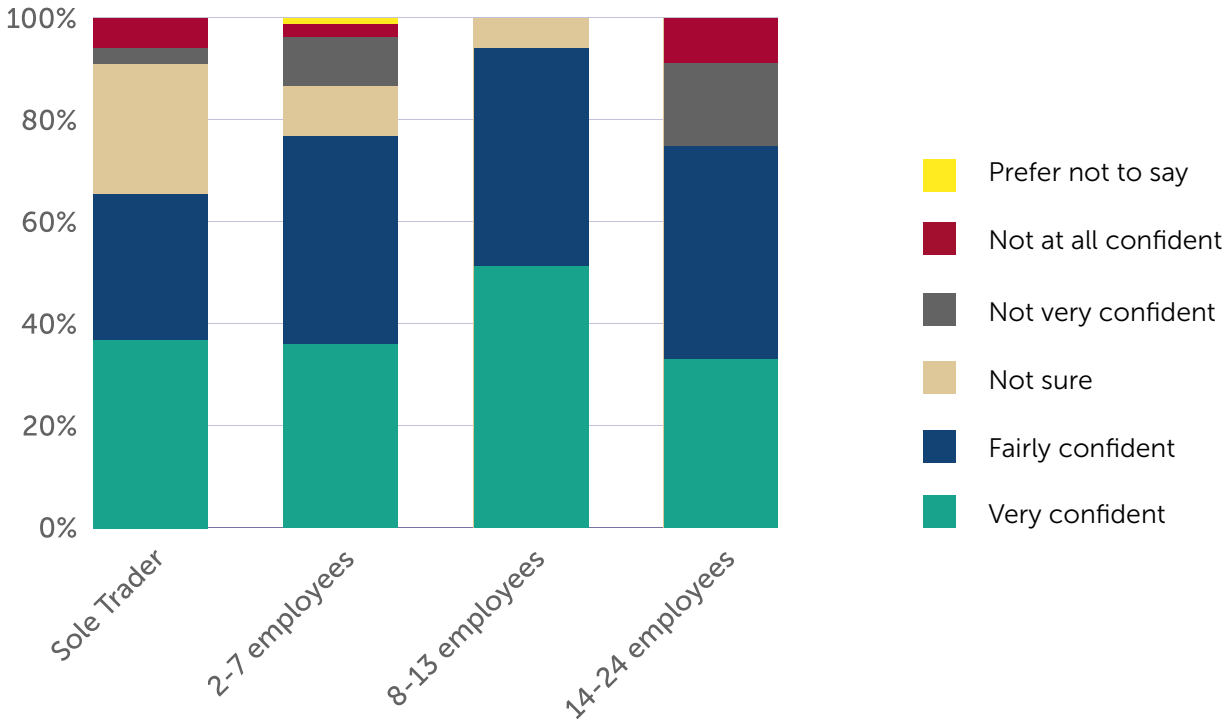
Recognising that quality is not delivered by convenience, and convenience does not deliver quality. This opens up an important discussion about supporting the industry to transition to a position where professional standards are routine, and construction projects can only be undertaken by licensed firms made up of skilled professionals who have qualified into their roles. Approved, usable occupational standards need to be part of that structure.

2 Simpson K and Owen A. 2020. Reflections from Engaging a Network of Local Stakeholders in Discussing Training Needs for Sustainable Renovation. *Frontiers in Built Environment.* 6

3 Killip, G. and Robson, J. (2024) Preparing England's further education system for zero-carbon construction skills. Proceedings of the Institution of Civil Engineers – Energy, https://link.edgepilot.com/s/7028b186/WrHWjhKzDUCxoJE33Swr6Q?u=https://doi.org/10.1680/jener.23.00051

Figure 8:

How confidence in delivering a project varies between firm size



7. Firms identify several barriers to energy efficiency and LZCTs, with the most frequently cited barriers being high costs and low consumer demand.

8. Cost barriers include the additional time and labour required to increase competence not only technology costs.

The survey responses reinforced that perceived costs remain a significant barrier to mainstream adoption of energy efficiency and low carbon technologies. This is not only the cost of technology that can be supported through capital grants; labour costs were specifically mentioned as a major concern. From a list of potential barriers shown in Figure 8, the 'costs of energy-related materials and equipment' was the most commonly identified barrier, by some margin.

A lack of customer interest is also mentioned relatively frequently, along with the additional costs of labour in undertaking energy related work.

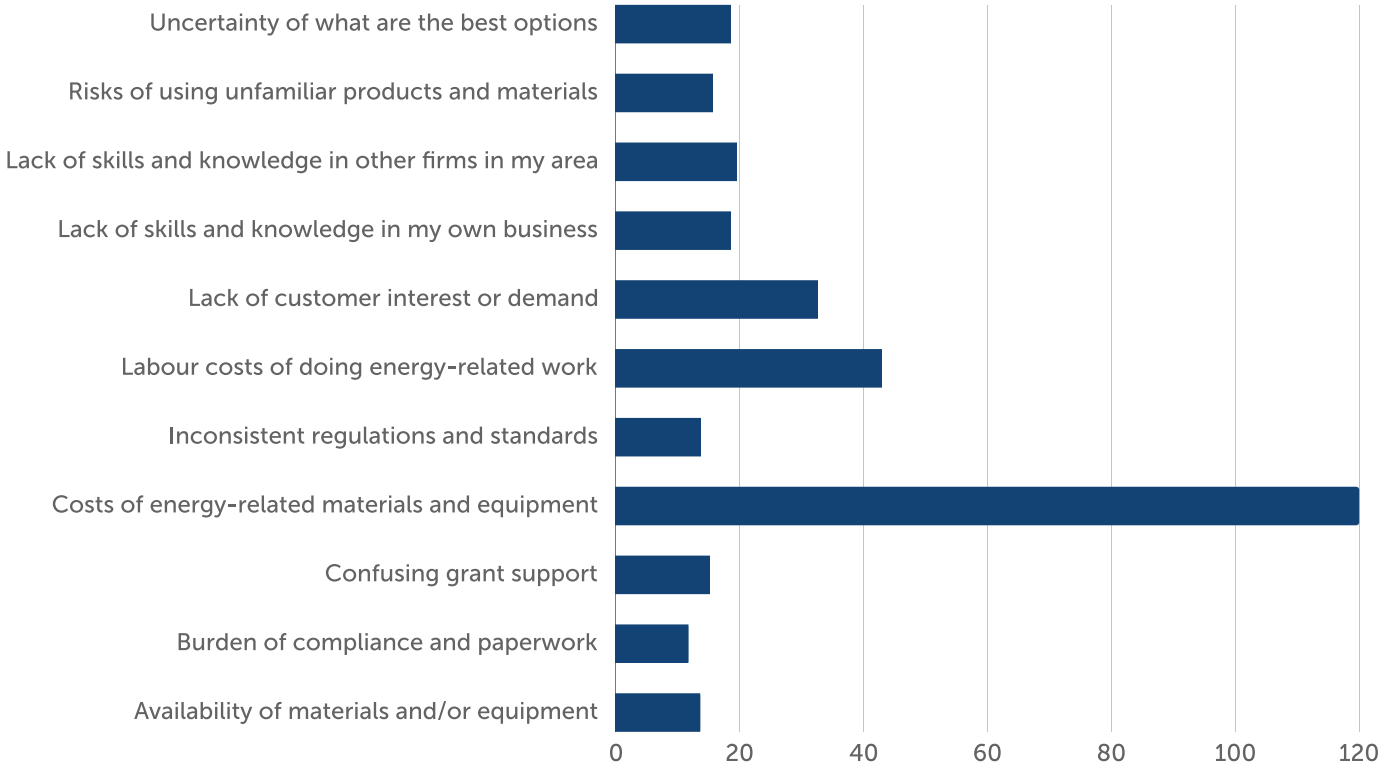
This leads to the suggestion that funding and policy support needs to tackle more than the perceived capital cost of materials and equipment. Specifically, funding which covers the costs of labour, and the costs of people learning and correcting work as they go, would remove a significant barrier preventing progress at the moment.

9. **Many construction firms rely on regulation or design by others to guide their work, where such regulation or design exists.**

10. **Many firms believe that it is easier to incorporate low carbon concerns into new build compared to Repair Maintenance & Improvement (RMI) because the regulatory position is clearer.**

Figure 9:

Number of mentions for barriers to undertaking more energy efficient and low carbon work



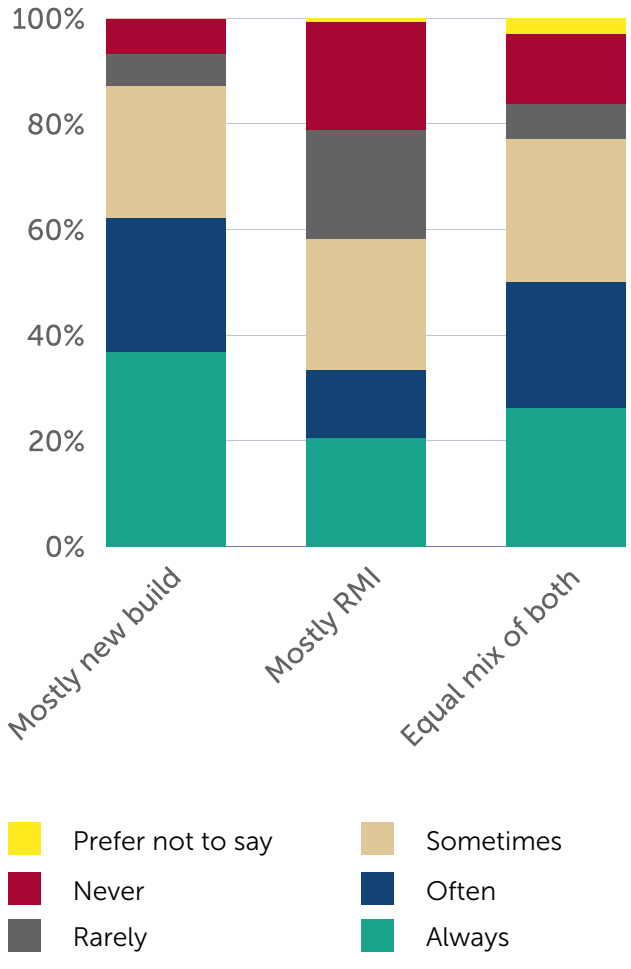
Firms undertaking new build work, or a mixture of RMI and new build work, reported being more likely to 'always' or 'often' consider energy issues in their projects (Figure 9).

The likelihood of considering energy issues feeds through to confidence in answering client queries on energy efficiency and low carbon technology; all firms who undertook mainly new build work felt 'fairly' or 'very' confident that they would be able to answer client queries about energy and low carbon technology". Showing a similar pattern, confidence in being able to deliver energy efficiency and low carbon 'technology' projects was highest among firms specialising in new builds. The survey responses cannot provide certainty on what causes the greater willingness and capacity to tackle energy efficiency and low carbon in new build, but it seems likely that one factor is the certainty offered by new build projects in terms of what must be specified, and provided, in order to meet building regulations.

This in turn indicates a clear gap in setting the standards for energy efficiency and low carbon work in RMI projects, and the need for SME construction firms to access the advice and support that will enable them to meet those requirements.

Figure 10:

How the likelihood of considering energy issues varies with the type of work undertaken



Conclusions

This report provides a brief overview of some of the insights gathered from asking SME construction firms directly about their experience of the market for energy efficiency and LZCTs. As such, the survey responses provided start to fill a significant gap in the data available to create effective policy frameworks and industry support for carbon targets associated with buildings, especially housing. Builders and contractors play a critical role in transforming homes so that those homes are fit for the future. As well as their evident role in delivering projects, builders act as advisers to their clients, and to their peers. Their beliefs and perceptions of what will work, what is value for money, and what buildings need shape how projects are designed and what homeowners are willing to fund.

Construction firms say that they will respond to what their clients ask them to do. They indicate that they are willing to develop skills, if there is the market to deploy those skills. Transforming the market for RMI work in homes means working with consumers, and providers, so that it becomes routine to expect low carbon outcomes from construction work, whoever undertakes that work. In parallel, there needs to be a structure of quality assurance that checks that desired outcomes have been achieved.

RMI projects lag behind new build projects in having the clarity of design and outcome specifications that would change home energy performance, and therefore home comfort and energy bills. The industry's willingness to respond to market signals must be coupled with a robust framework of standards to ensure high quality work is carried out. This framework should cover technical standards and specifications, professional recognition of skills and occupational standards, and measurement of the energy performance outcomes achieved by projects. Without SME construction firms, the UK cannot have the healthy, low carbon homes it needs. Even if they are outside the set of stakeholders usually involved in policy development, SME construction firms' perspectives bring fresh insights to help understand 'what works'.

Acknowledgements

This research was funded by the Federation of Master Builders: **www.fmb.org.uk**

The data was collected by Question & Retain: **www.questionandretain.co.uk**

Appendix 1: Survey Questions

No.	Question	Response
1.	Is your work?	• Mostly new build • Mostly repair maintenance and improvement • Equal mix of both • Prefer not to say
2.	How many people are employed in your firm?	• Sole trader or 1 employee • 2-7 people • 8-13 people • 14-24 people • 25 or more people
3.	How confident do you feel about the health of your business over the next 12-18 months?	• Expecting that business will get better • Expecting business to stay the same • Expecting business to become more difficult • Prefer not to say
4.	Do you consider energy issues in developing, costing or delivering projects?	• All the time • Often • Sometimes • Rarely • Never • Prefer not to say
5.	Do you want to say anything about the different energy issues (e.g. e.g. insulation, energy efficiency and costs, heat pumps, hydrogen, solar panels..)	• Open comment
6.	Do your clients ask you about energy efficiency and low-carbon technologies (eg. heat pumps, solar panels)?	• All the time • Often • Sometimes • Rarely • Never • Prefer not to say
7.	How confident are you that you could deliver a project involving energy efficiency and low-carbon technologies?	• Very confident • Fairly confident • Not sure • Not very confident • Not at all confident • Prefer not to say

8.	How confident are you that you could answer client's questions about energy efficiency and low-carbon technologies?	• Very confident • Fairly confident • Not sure • Not very confident • Not at all confident • Prefer not to say
9.	Thinking about your own business, what are the three things that best reflect your experience of why energy efficiency and low-carbon technologies are not more commonplace:	• Costs of energy-related materials and equipment • Labour costs of doing energy-related work • Uncertainty of what are the best options • Inconsistent regulations and standards • Confusing grant support • Lack of customer interest or demand • Lack of skills and knowledge in my own business • Lack of skills and knowledge in other firms in my area • Risks of using unfamiliar products and materials • Availability of materials and/or equipment • Burden of compliance and paperwork • Other (please specify) • Prefer not to say

FEDERATION OF
MASTER
BUILDERS

Est. 1941

Founded in 1941, the Federation of Master Builders (FMB) is the largest trade association in the UK construction industry representing the interests of micro, small and medium-sized building companies. The FMB is independent and non-profit making, lobbying for members' interests at both national and local level. The FMB is a source of knowledge, professional advice, and support for its members, providing a range of modern and relevant business building services to help them succeed.

Please visit **fmb.org.uk**