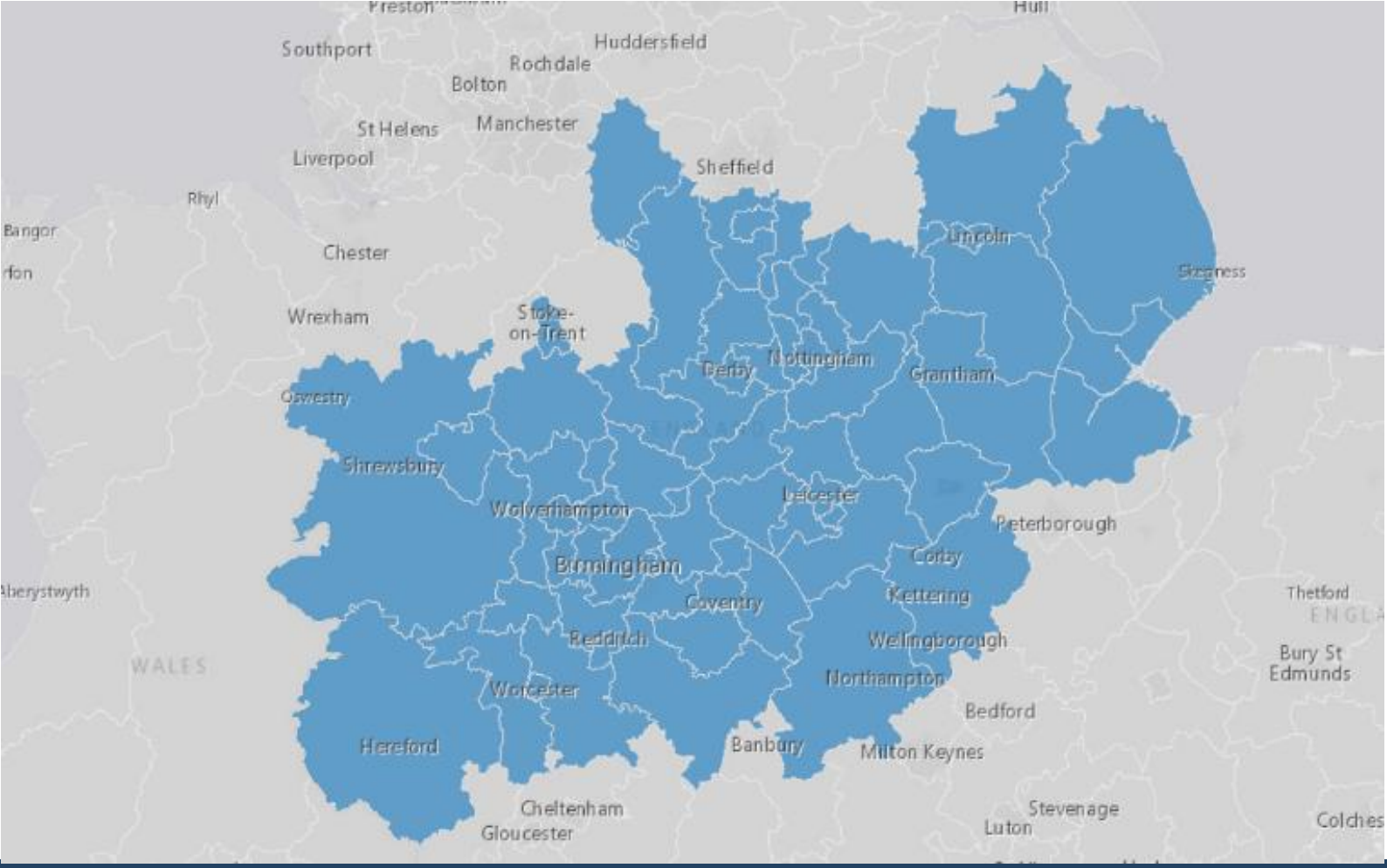

Midlands Regional Net Zero Building Retrofit Skills Plan

Midlands Net Zero Hub

April 2024

Department for Energy Security & Net Zero

MIDLANDS NET ZERO HUB

Nottingham City Council | Environment and Sustainability

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Executive Summary

Opergy were requested by the Midlands Net Zero Hub to aggregate and provide additions to the three Local Retrofit Skills Plans already ably drafted by Birmingham, Bolsover and East Lindsey Councils. As well as the substantial research conducted by the local plans, additional interviews were conducted, a survey run, additional research undertaken, and a final workshop was held with representatives from the three councils. These activities allowed the drafting of this document and plan to promote the delivery of activities that will have a meaningful positive effect on the volume and quality of retrofit skills across the Midlands.

Although the Midlands is a diverse region with both heavily urbanised and very rural parts, with areas of wealth and fuel poverty, from our analysis, the requirements for retrofit skills were similar and in equal demand across the region. We therefore felt that, if collaboration was possible across this large area, skills initiatives and coordination around retrofit would be similarly applicable across the region.

All UK regions have Net Zero aspirations by 2050. The volume of work that this will require is substantial, requiring large volumes of skilled trades, which gives us the current and future needs of the Midlands Retrofit Sector. When looking at this demand led requirement, the numbers of skills required is daunting, over 6,000 per year, and will take substantial focus and funding. However, this review has heard that retrofit demand is lagging behind expectations and thus the need for skills is lower than envisaged. For this reason, with the organic growth that we are seeing, the Midlands is in a strong position to be able to deliver the skills needed of this controlled expansion. The Midlands is fortunate to have a number of retrofit and trade training facilities and the supply chain to support it. As such, the expected growth should be possible, although there will be some areas of demand, especially in some trades and some localities.

Our report and the other 3 local plans have identified these 4 key challenges:

1) Insufficient existing construction workers gaining the knowledge and skills required to effectively conduct retrofit activities.
2) Lack of new entrants wanting to gain skills in retrofit trades.
3) Insufficient coordination to reduce unnecessary work or duplication.
4) Skill requirement and administration burden of retrofit Trustmark lodgement for ECO4.

Two of the key challenges for retrofit skills are more about the demand for the skills and the attraction of individuals who desire to obtain them and less about the provision of training or the development of training products. For this reason, a long-term social policy is required that not only communicates and promotes the opportunities and advantages of a career in retrofit and construction, but one that also promotes the adoption and appeal of retrofit activity to the owners of Midland's building stock. If the requirement for retrofit activity is increased at a manageable rate and maintained for a protracted period of time, it will attract the number of individuals required to achieve the work and the Midlands is well placed to provide the volume and quality of skills training and experience needed for them to become competent workers.

The other recommendations of this report look to address the coordination of retrofit skills activities across the Midlands to promote efficiency and reduce duplication. If retrofit work was specified and purchased in a manner that supports the implementation of the activity in the most efficient and aligned way, it would reduce the skills burden required. Similarly, if this integration can reduce and simplify the administration burden of retrofit lodgement, that too will reduce the skills requirement and allow for a concentration on delivering energy efficiency measures.

The nine recommendations in brief:

1. Establish a Regional Retrofit Leadership / Collaboration Group – To guide the Retrofit Hub and advise Government, Local Authorities and Midlands' Councils.

2. Dedicated Midlands Retrofit Skills team to undertake a number of actions – To coordinate local skills initiative, provide information and intelligence and undertake engagement and coordination tasks.

3. Retrofit Employer Forum / Network – To promote supply chain companies, particularly micro and small enterprises, to be given support to expand and be more resilient. Matching existing accredited businesses with those seeking to access market as well as to promote introductory training and PAS2035 training.

4. Development and implementation of a Careers Map, Schools awareness programme and a youth engagement programme – To promote the number of new entrants and career changers to join the sector as well as awareness for careers influencers.

5. Training fund for SMEs and individuals transferring into Retrofit - Funding for training places, certification, micro credentials. Much of this can be sign posting to currently available sources of skills funding.

6. Review National standards for retrofit skills across all measures - Regional and local representative for national standards to give standardisation to retrofit measures and consistent quality and approach for customers so that skills are harmonised where possible across the UK.

7. Development of a communications plan to raise awareness of retrofit as a career and training available. – Aimed at trades people, new entrants and career transitions to become aware of the Retrofit sector and make them better able to identify courses which match their needs.

8. Encouragement to employers to take on Apprentices and support with Managing the Apprentices -People resource to support retrofit apprentices and their employer. Supporting employers with administration burden and support the apprentice in their onsite employment. This will help maximise the number of apprentices who finish their training, pass their qualifications and gain employment.

9. Provide skills and employment intelligence - Data on current skills and employment. Forecast skills demand from modelling.

The Midlands retrofit sector, if managed effectively, has an important place in helping to lead the UKs retrofit efforts and to act as a source of best practice for retrofit skills solutions. This document includes the above nine long term actions that will facilitate the skills aspect of this social policy, as well as a shorter-term plan of eight mirrored actions that will substantially move this work forwards by the end of summer 2024. The shorter-term plan is purely an enabler for the longer-term actions, which themselves will only be successful if the demand for retrofit activity is supported by longer term local and national government initiatives to drive a sustained demand for retrofit work. Only in this manner will the Midlands and the UK achieve its sustainable building targets.

Introduction

Purpose

Midlands Net Zero Hub (MNZH), under the direction of the Department of Energy Security and Net Zero (DESNZ), recognised the need for a region wide plan to support the skills required to achieve the proposed level of activity in Net Zero Building Retrofit in both the short and long term.

Aims

DESNZ established the Regional Skills Pilot which will be carried out in two phases.

> Phase 1 – Funding provided to support the development of a Net Zero Building Retrofit Skills Plan ("the Plan").
>
> Phase 2 – Funding towards a proportion of the costs of the implementation of solutions identified within Plan during Phase 1.

The aim of this document is to analyse and benchmark the current retrofit skills capability in the Midlands and develop a tailored action plan to bring scalable solutions to ensure there is sufficient skilled workforce to deliver the retrofit activity needed to achieve Net Zero by 2050. This will be based on the analysis and consolidation of the findings from the three Local Authorities (Birmingham City Council, Bolsover District Council and East Lindsey District Council). Their findings will be extrapolated to the wider Midlands region. This will also include a desktop study on any existing research related to the retrofit supply chain and first-hand intelligence gathered in the course of the project. The outcomes of this work will allow the authorities across the Midlands, colleges & training providers and other relevant stakeholders to align their retrofit skills initiatives, gain funding from DESNZ as part of Phase 2, as well as funding from other sources and achieve greater benefit from a common implementation across the Midlands.

Background

To support the nation's drive towards Net Zero by 2050 a high proportion of the current stock of buildings, which represents 20% of the UK's carbon output (including Public Buildings, Offices and Retail), will need to have building retrofit undertaken upon them. This includes 29 million homes.[1] These energy efficiency measures (EEM) are not only labour intensive, but also require a substantial level of skill to ensure they are done safely, correctly (so that they perform correctly and do not cause negative effects) and are done in a manner that is as conducive to the occupants lives as is possible.

Three Local Authority (LA) building retrofit skills plans; Birmingham City Council, Bolsover District Council and East Lindsey District Council have already been completed to a very high standard during December 2023 to February 2024. These three local plans were authored by three different organisations and involved their own literature reviews, research and stakeholder engagement activities. This regional plan does not seek to replicate these activities but to complement them and to reflect the content and learnings of the local plans.

Much of the retrofit skills landscape is dominated by the demand for retrofit services, as of course, without work there is no driver to employment and the achievement of the skills required. Much of the demand, as with most nascent industries, is driven by government funding, legislation and

[1] 2020 UK Greenhouse Gas Emissions, Final Figures (publishing.service.gov.uk)

incentives. Although there is a clear link between government funding policy and skills, this document does not seek to comment on this aspect and will concentrate solely on skills.

Retrofit, as stated in PAS2035 has 41 likely measures and at least 14 distinct Job Roles.[2] One of the issues with retrofit is that very few of the roles are distinct to the Net Zero agenda, nearly all are the understanding of new or different: tools, materials or techniques as part of established trades. As we know, the majority of the workforce in 2050 are already in work, and so the major skills issues are upskilling the existing trades people and attracting additional workers from other industries.[3]

It is important to note that to gain maximum effect on retrofit skills provision longer term initiatives are required due to the long durations required to attract people to a sector and ensure they are competent in their trade. There are shorter term initiatives that can be supported immediately that will help support the longer-term effort.

The following document is an aggregation of the contents of the three local plans with additions, that will allow the Midlands to stimulate a growth in retrofit skills and safeguard it's just transition to Net Zero.

[2] pas_2035_2023.pdf (bsigroup.com)
[3] Plenary 27/02/2024 - Welsh Parliament (senedd.wales)

Approach and Methodology

Literature Review

Each of the three local plans undertook extensive literature reviews in addition to their already substantial knowledge. This project replicated some of this work of the local pans but focused substantially on identifying the key themes and common areas of note within the three local plans. There was a high level of agreement across the plans although Birmingham's differed slightly from the other two due to being a major urban centre whereas the other locations were comprised of small urban and rural areas.

To further test and validate the overarching themes and commonalities identified in the three local skills plans, additional literature and data was consulted and analysed. This includes but is not limited to; the Home Decarbonisation Regional Skills Pilot Plan Evaluation, the Green Homes Grant Skills Training Competition Evaluation and official statistics (e.g. ONS) around employment trends, fuel poverty and domestic energy efficiency. Consulting this literature and data helped to further evidence the themes and commonalities that were identified in the three Local Authority retrofit plans. It also helped to further shape the regional context, framing the state of the retrofit skills challenge and the resources and skills needed to address them.

The full Literature Review can be seen at Appendix H.

Stakeholder Engagement

The three local plans had undergone extensive stakeholder engagement which can be seen in Appendix G. As such this project did not want to duplicate and so engaged with slightly different stakeholders that had not already been contacted by one of the local plans, a list is at Appendix G. We of course also engaged with the authors and local government officers of the three local plans to ensure we fully understood their plan and could reflect them faithfully. This breadth and depth of engagement from the four projects combined provides a reliable consultation that should be reflective of the entire Midlands region.

The project attempted to engage a different set of stakeholders to those already engaged. This meant we also included national organisations that would have a significant emphasis on the Midlands as well as regional individuals and organisations. To maximise our engagement, Opergy undertook a stakeholder mapping exercise. This began with a social media campaign, whereby we shared a link to an early engagement questionnaire, requiring interested stakeholders to return basic info (i.e. full name, organisation, contact, email, telephone number and preferred method of stakeholder participation). We also conducted extensive desk-based research into as many relevant businesses/contractors as we could. Using sites such as The Installation Assurance Authority, (IAA) and the Microgeneration Certification Scheme (MCS) online contractor search tools, we identified approximately a hundred businesses who were either based in or operated in the Midlands and added these to those who had replied to the questionnaire. This information was then aggregated using a CRM system.

Upon completion of this stakeholder exercise, we were then able to send tailored and targeted emails, widening our overall engagement. We made additional contact with individuals from other stakeholder groups, including Chambers of Commerce, housing associations, training providers and local authorities.

Engaged stakeholders were asked to fill in an online survey. This was also promoted by further social media attracting some additional individuals to fill it in. The results of the survey can be seen at Appendix I. If the questions or raw survey data is needed, the project can provide this information. The statistics on the social media were:

- Impressions: 1,496 (number of digital news feed views of the post)
- Engagement: 115 (the interactions and comments of users with the post)
- Clicks: 42 (click throughs to read more or take some action)

Demonstrating our success at reaching a large number of individuals, however, only eight individuals proceeded to fill in the survey, which was a disappointing number, but is probably due to the very substantial engagement already recently conducted by the three Local Plans.

23 stakeholder meetings were conducted, some with one stakeholder, others with two. Although it was envisaged that a workshop would be needed, there was no day that individuals could all do and so all stakeholders were engaged via interview instead. These interviews provided a rich source of data and opinion which was used as the basis of this report.

Analysis and Plan Drafting

The project took the data reflected in the three local plans as well as the intelligence gathered from the stakeholder engagement and blended this together to populate the plan. It is a complete reflection of these inputs. The actions of all three local plans were aggregated in a single table and restructured in a common format. This can be found in Appendix D. Analysis was conducted to align all the three local plan actions together and homogonies them under a new Midlands wide Action Plan. This can be seen at Appendix B and the recommendation section. Due to the offer of immediate funding of some actions before summer 2024, Appendix A was created to outline what could be implemented currently.

The aggregation of the three plans and then extrapolating up to cover the wider Midlands has some risk in that what is right for these three areas may not be right for the whole of the Midlands. We have addressed this risk by; 1) Analysing the pertinent data on the areas and the Midlands, 2) Discussing with stakeholders if issues were local, regional, or national.

The pertinent regional data we looked at were the Energy Performance Certificate (EPC) ratings, the fuel poverty of the regions and the geography of the three regions.

The EPC ratings for East Lindsey and Birmingham are both at 45%-50% EPC level D or worse. The rating for Bolsover is at 30%-35% EPC level D or worse. If you look at Appendix E, it shows that these levels are fairly typical of the Midlands with some areas worse than these and a number performing better.

The proportion of households in fuel poverty is a similar picture. Birmingham performs worse at 22%-24% of households in fuel poverty, then East Lindsey at 16%-18% and then Bolsover at 14%-16%. These are again broadly representative of the whole area although on the lower level of performance. Many of the other Midlands area councils are performing at 12%-14% or better. See Appendix E

Geographically the three areas are also representative with a nice spread across the Midlands covering West Midlands, North Central Midlands and the East Midlands. The South-Central Midlands is thus under represented; however, we believe this area will be in a similar or better position to address their retrofit skills issues. The reason we say this is because the South East

portion of the Midlands has a lower percentage of fuel poverty compared to the rest of the Midlands, which should mean they are economically more able to afford energy performance measures should there be additional drivers towards a lower carbon society. The area also has a higher proportion of dwellings that have a good Energy Performance Certificate (A-C rating), meaning less work is required and potentially supporting the last statement that more energy efficiency measure have already been implemented This areas also has excellent training facilities in it or nearby such as Milton Keynes, Bedford and the new IAA training facility at Leighton Buzzard, which means the skills infrastructure is well place to support the increase I demand for EEM Skills training and development. The one issue the South Central Midlands may be affected by is the draw of labour towards London and the Home Counties, which may pull skilled tradespeople to work away from the area making them unavailable to support the Midlands' drive to Net Zero, The nature of the three localities adding to this plan is also nicely spread, with Birmingham being heavily urban, Bolsover being a mix of urban and rural and with East Lindsey being predominantly rural with the addition of a significant length of coastline.

Although confident that the three areas are representational of the Midlands it is important to outline the risks of the three areas not representing the wider region. There are 4 risk scenarios:

1. The 3 locations need **more** retrofit work than the rest of the region, and the skills supply in the 3 locations is **larger** than is typical for the region.
2. The 3 locations need **more** retrofit work than the rest of the region, and the skills supply in the 3 locations is **smaller** than is typical for the region.
3. The 3 locations need **less** retrofit work than the rest of the region, and the skills supply in the 3 locations is **larger** than is typical for the region.
4. The 3 locations need **less** retrofit work than the rest of the region, and the skills supply in the 3 locations is **smaller** than is typical for the region.

Looking at these scenarios, 1 and 4 will essentially cancel themselves out and will mean, although representational, the 3 areas will be in a similar situation as the wider region. The differences are that in Scenario 1, the retrofit sector will be larger than expected and this may draw more people than expected from other industries. It will also put greater than expected pressure on the training capability across the Midlands. Scenario 4 will mean that the retrofit sector is smaller than expected and thus any initiatives or expenditure used to attract individuals to the jobs in the sector may have been better focused on other industries.

In the case of scenario 2 this will result in our analysis communicating a situation that is worse than it actually is. This could result in unnecessary initiatives being implemented and measures being over specified. Although this will better promote the volume of people resource in the Midlands able to conduct retrofit activity and thus potentially being able to conduct an increased amount of work, in practice this will mean individuals gain jobs and training without there being sufficient work. In these scenarios, as we have seen in the past, there is then damage to the employment reputation of the sub sector caused by high volumes of redundancies and individuals being unable to find sufficient work. Once this happens there can be a long 'social memory' which will make attracting people to the sector in future very difficult, causing a subsequent lack of resource in future years when the volume of work does increase.

In the case of scenario 3, this will result in having fewer initiatives than is actually needed across the region exacerbating the already expected skills gap. This will mean that there will be substantially less capability to deliver retrofit activity than needed increasing the chance the region will miss its 2050 sustainability targets. There would be less capability than is needed in the training infrastructure of the Midlands resulting in insufficient entrants into the sector to conduct the work, resulting in either the work not being done, a significant increase in prices for

the work and/or workers travelling in from the surrounding areas, losing a valuable source of employment to the Midlands.

Separate risks that need to be highlighted that may alter the calculation of retrofit activity that needs to be conducted, which has been used in the 3 local plans and this report (retrofit demand). The domestic situation in the Midlands with a variety of ownership types; council, housing association, charity, commercial letting, private letting and private ownership and less reporting of retrofit activity than there should be, does mean that there may have been a larger extent of retrofit activity, especially in insulation, than has been estimated. This activity will have been conducted during routine maintenance, by the wide range of promotional schemes, by DIYers or contractors that then did not report to building control or other agency. This would mean there is less retrofit activity needed across the region than expected. Equally, there is also anecdotal evidence that retrofit activity has been conducted sub standardly, which will therefore need to be replaced or has caused other issues, e.g. condensation, resulting in additional retrofit measures. These last two scenarios will increase the volume of retrofit work that will be required in the Midlands. Therefore, it makes it very difficult to accurately estimate the volume of retrofit work, and thus skills, that still needs to be conducted.

Due to the concern over these scenarios, we have spent time analysing the environment of the 3 regions and discussing with stakeholders on their views. As we have shown above there are strong similarities between the demand and ability to implement energy efficiency measures across the whole of the Midlands and thus the 3 pilot areas are broadly in line with the overall region, and this was confirmed by the stakeholder engagement we conducted, in which all the stakeholders volunteered the same barriers and identified the same needs for their localities. Many of them, like Housing Associations have portfolios that stretch over multiple Authority areas within and outside the Midlands and are looking at solutions to cover their wider operating areas.

Allied to this, many of the necessary actions are likely to be best addressed on a regional basis. We know the longest travel distance across the Midlands, Hereford to Grimsby, takes around four hours. Anecdotally it is believed that trades people will travel three hours for work, meaning the majority of the Midlands for any tradesperson is likely to be within reach. We also know that people will travel an hour for training, making many of the regional training facilities, and those just outside of the Midlands viable locations to most tradespeople in the region. We also know from engaging with national industry and trade stakeholders that many of the issues we have identified are replicated across the nation and that as leadership bodies they are addressing them on a national basis and that there is benefit from addressing the barriers at local, regional and national levels to gain the most effective skills improvement.

As such we feel that the aggregation of the three local skills plans can be safely extrapolated across the wider Midlands region. We therefore believe that the Midlands Retrofit Skills Plan provides a reliable set of scalable solutions for supporting the increase of skills across the retrofit environment for the Midlands region. However, the situation needs ongoing monitoring (see recommendation OP9) and additional research should be conducted if large scale initiative were invested in, e.g. New Build College etc.

We would like to give recognition to the quality and extent of the three local skills plans that have fed into this document. The extent of engagement they conducted and the scale of knowledge of the authors are both substantial and the presentation of the data significantly assisted with the aggregation of the three plans into a single Midlands Retrofit Skills Plan.

Section 1 - Retrofit Environment in the Midlands

Current Environment

There are no doubt significant challenges within the national domestic retrofit environment. These challenges are particularly pronounced in the Midlands region - over four million homes across the Midlands region are registered as having an EPC of D or below, placing both East and West Midlands among the top three regions with the lowest levels of domestic energy efficiency. As a result, the Midlands almost certainly will see higher than average levels of fuel poverty, compared to the rest of the England. Coupled with high skills demands in nearly all the trades relevant to retrofitting, the scale of the challenge is clear. Equally, the scale of the challenges facing the regional sector opens numerous opportunities for the Midlands' economy as well.

We have conducted the majority of our analysis on a Regional (Midlands) and Authority (East Midlands/West Midlands) level, using the 3 local council plans for information and guidance. This jump in scale is due to the ability to gain documented information, views and data. Both Government (e.g. SIC data), and leadership organisation (e.g. IAA, CITB, Historic England) produce reports and intelligence at a regional level, so our analysis could be richer working at a corresponding scale.

CITB's Construction Skills Network puts the Midlands construction workforce during 2022 at 392,000 workers and staying fairly static until 2027, with around 40% of the sector involved in domestic work (Public Housing, Private Housing and Domestic Repair & Maintenance). Analysis of Government Census data for the relevant SIC groups put the workforce around 690,000, substantially higher. As such there is clearly already substantial embedded construction capability in the area. This does not translate well to the retrofit sector. The Trustmark data shows that just a small number of companies are active in Retrofit, see Table 1, and similarly the Insulation Assurance Authority estimate the current Midlands Retrofit workforce at only 1,172 workers (East Midlands 470, West Midlands 702)[4]. This shows a current low level of focus on retrofit, however, the stakeholders we spoke to were confident that the Midlands would have sufficient skilled resource if the current wider construction workforce was encouraged to gain retrofit skills.

Retrofit Type	East Midlands	West Midlands	Total (Midlands)
ASHPs	19	19	38
Battery Storage	19	19	38
Cavity Wall Insulation	19	20	39
External Wall Insulation	19	19	38
Internal Wall Insulation	4	1	5
Solar Panels	20	19	39
Retrofit Assessor	19	20	39
Retrofit Coordinator	16	19	35
Retrofit Inspector	0	0	0

Table 1: Trustmark estimates of number of retrofit companies by trade

From our stakeholder engagement and research we see a two-tier retrofit industry. The well embedded areas of Solar PV and double glazing have a good quantity of skilled capability,

[4] Data gained from the Birmingham and Bolsover Retrofit Skills Plans from their analysis of available data

although skills can always be improved. Solar PV is seeing a current spike in demand due to the energy crisis, with the related demand in skills and employment. However, this is likely to drop as electricity prices normalise as we are currently seeing. The rest of the sector is lagging well behind with external wall insulation singled out as the area with the largest skills gap by stakeholders. Retrofit Assessors and Coordinators is also a significant bottleneck that employers feel is holding them back.

Future Environment

Future people resource with appropriate skills will be aligned to demand, with a likely position that supply will lag behind demand as work increases towards 2050. It is therefore difficult to predict the required retrofit skills supply as demand is lower than what is expected or needed to achieve net zero at this point.

When we look at the local plans we get a good idea of the total skills requirement per year in the near future:

Energy Efficiency Measure	West Midlands	East Midlands	Total
External Wall Insulators:	416	724	1140
Retrofit Coordinators:	119	905	1024
Retrofit Assessors:	105	181	286
Internal / Cavity Wall Insulation Installers:	86	724	810
Retrofit Designers:	73	362	435
Solar PV Installers:	48	2082	2130
Energy Efficient Window/Door Fitters:	45	136	181
			6006

Table 2: Combined Midlands skills requirement for 7 trade areas.

The data in this table is gained from the Birmingham City Local Plan and the Bolsover Local Authority Plan. Although there are some discrepancies, e.g. number of Solar PV installers, it does give an indication of the volume of the challenge. It is important to note, that Bolsover numbers were based on the requirement to retrofit all the existing housing stock that need measures opposed to Birmingham which is based on expected demand. The total estimated annual retrofit recruitment and training requirement of over 6,000 people per year is a substantial challenge.

Another challenge in estimating the future workforce environment is in the actual process of quantifying and identifying which jobs are within the retrofit sector. As can be found in some of the key employment data across the three local authority plans, there are numerous ways by which the retrofit workforce can be calculated. For example, Bolsover's retrofit workforce was calculating, building on pre-existing data and assumptions around the number of homes, the number of retrofits required per year and the total hours each worker would work versus total hours actually required to fulfil the retrofit demands. Across the Bolsover district, this equates to 201 retrofit workers per annum for the next 25 years. This was calculated based on the estimated total housing stock in Bolsover. By contrast, the Birmingham local authority data only includes *additional* retrofit workforce data and does not cover the entire housing stock. This data is then broken down by the individual training demands required across all key trades. As has been further validated through our wider stakeholder engagement, the future demand is highest for wall insulators (internal and external) and retrofit coordinators, designers, assessors and inspectors. In Birmingham alone, hundreds will need to be trained in the future. East Lindsey's information compared the total local construction workforce, in which all retrofit jobs are

expected to fall within, are compared to a number of databases (e.g. Trustmark, MCS, the Government Endorses Quality Scheme and others), providing some baseline, workforce/business estimates. This then formed the basis for the plan's market demand analysis.

Historic England also estimates the total future Midlands Retrofit workforce will need to be 16,000 workers to address retrofit work on pre 1919 dwellings:

- Estimated direct economic output (East Midlands - £1,171,600,000, requiring an additional 9,000 FTEs per year – Historic England)
- Estimated direct economic output (West Midlands - £978,100,000, requiring an additional 7,000 FTEs per year – Historic England) [5]

N.B. there is no indication from Historic England on the peak or duration of domestic retrofit workforce requirements. There is much current work being conducted on human resource requirements. The 'Net Zero and Nature Workforce Action Plan' is due to be published by mid-2024 and is expected to provide sector-specific analyses of aspects such as workforce shortages and skills gaps and opportunities for upskilling to enter green economies.[6]

This is supported by the forecasts undertaken by the Insulation Assurance Association which expects a workforce of nearly 15,000 by 2025 and over 22,000 by 2030[7] for domestic retrofit work. Although this is substantial growth, it is expected that much of it will be achieved by the existing workforce gaining short course training ranging from a few days to a few weeks.

Although this is a huge increase in size, the number of new entrants compared to upskilling existing workers is relatively small. Even though the number is small, this will still be difficult to achieve due to the reputation of the construction industry and the perception that construction is contributing to climate change rather than supporting its mitigation. The communication to young people and career changers that retrofit activity is essential to addressing climate change is a key area that needs to be addressed in the Midlands.

It is very difficult to identify the number of tradespeople who move into domestic retrofit as they are remain within the construction sector and will most likely engage in their original trade as well as taking on work in domestic retrofit, e.g. a plumber will continue to fit gas boilers as well as fitting air source heat pumps, a site carpenter will still gain work on new build dwellings as well as finding work in interior wall insulation and an electrician will most likely provide a wide range of electrical services whilst also installing the caballing need for solar panels. However, there has been substantial mapping to identify the additional skills and knowledge required by current trades people and the sector has known for a while that there needs to be both new entrants and the transfer of skills from the current construction trades. For example, in May 2024 the Construction Leadership Council said, 'The existing workforce must be incentivised to undertake appropriate qualifications and training to upskill whilst action is taken to encourage new entrants into the sector.'[8] And work is being done by CITB and other leadership organisations to promote this transfer. What is clear is that there needs to be a substantial drive to encourage both current construction workers to gain retrofit skills and for the retrofit sector to recruit new young entrants. These efforts should be aligned with the general recruitment into the wider construction sector

[5] https://historicengland.maps.arcgis.com/apps/dashboards/aa9dae3882b147f69ff80184a783ca55 (numbers for retrofitting domestic properties pre 1919 only)
[6] Green Jobs Delivery Group: Summer 2023 statement (publishing.service.gov.uk)
[7] IAA Employment Model Inputs and Outputs v6, unpublished (all domestic properties)
[8] CLC-Roadmap-of-Skills-for-Net-Zero-Report_07-May-2024.pdf (constructionleadershipcouncil.co.uk)

as communication of the career opportunities in retrofit will support the attraction in to construction and vice-versa.

Retrofit will not only make an improvement on climate change, but this activity will make the Midland's dwellings nicer to live in and will save the occupants money. There is potential to reduce regional household energy bills by £290 million by 2040.[9] This further supports the region as many of the manufactures e.g. Worchester Bosch, are based in the region and will benefit from the spend, improving the employment and skills within the retrofit manufacturing sector. These benefits need to be relayed to Midlands residents to increase the demand for retrofit, which will subsequently drive skills and employment.

[9] https://www.midlandsengine.org/wp-content/uploads/2021/11/Ten-Point-Plan-for-Green-Growth-in-the-Midlands-Engine_V1-1.pdf

Challenges for Developing Retrofit Installation Supply Chain

Demand for retrofit activity lagging behind the volume needed to achieve net zero is the major issue, as if there is not sufficient demand, employers and individuals will not see an opportunity in the sector and thus will not support or undertake training. Demand is not a skills issue however, and so we will concentrate on the following issues:

1) Insufficient existing construction workers gaining the knowledge and skills required to effectively conduct retrofit activities.
2) Lack of new entrants wanting to gain skills in retrofit trades.
3) Insufficient coordination to reduce unnecessary work or duplication.
4) Skill requirement and administration burden of retrofit Trustmark lodgement for ECO4

Again, we have chosen to analyse the challenges, and solutions, on a regional basis rather than at a Council level. This due to the challenges being common across all 3 council plans and the solutions often being again regional and often not possible on a council basis. For instance, we know that individuals will travel an hour for training, this means that many training providers will attract individuals from across the Midlands and not just the council area they are situated in. We also know (anecdotally) that individuals will travel for 3 hours for retrofit work, as such many of the skills, especially specialist skills, can be and need to be addressed on a regional basis as the individuals are happy to work across many council areas, and indeed, have to in order to have sufficient employment.

The conclusions that have been drawn during this study and the drafting of the subsequent Skills Plan have been gained by engagement with experts in retrofit across the National and Midlands. The major assumption used was that retrofit activity would continue to increase at the current rate due to the increasing need to achieve energy saving measures and micro generation inline with achieving the legal requirement of net zero by 2050. As current demand is lagging behind expectations[10], with fewer domestic retrofit measures being implemented than expected, the skills requirement is able to provide the volume of resource needed to for the current volume of work. As with many sustainability targets, the less implementation in the early years will result in additional effort towards the end of the period. Whilst demand lags behind the required volume of retrofit, there is little to be gained by recommending the resourcing of the workforce up to the level required to achieve the necessary energy efficiency measures, as this will just result in over capacity leading to redundancies and a race to the bottom on price and quality. This in turn will again tarnish the reputation of working in the Retrofit sector and the wider construction industry. This is our reasoning behind only making recommendations to support gradual growth whilst undertaking initiatives that will increase awareness of retrofit in terms of both demand and desirability to work in the sector. However, due to the 2050 deadline it must be assumed that at some point there will be a sharp correction upwards in the demand for retrofit activity and this will require a substantial growth in skills. This period needs to be foreseen up to 2 years before and action taken to support the upskilling of the Midlands workforce at this time, however, thanks to the implementation of this plan, the infrastructure and capability should be present to allow for this growth and to make the most of the drive towards net zero by 2050. To allow a realistic chance of supporting the future up turn both DESNZ and the Department for Education needs to have policies that will support the retrofit training sector between now and then.

[10] Home retrofits: One-third of UK funding is unspent (energymonitor.ai)

Insufficient existing workers transitioning to retrofit

This issue is caused by a number of factors. Probably the largest is the dominance of SMEs involved in retrofit. Many SMEs, of which 99% of the Midlands' regional economy is made up of, and particularly micro employers /sole traders, have a very short planning window[5]. They focus on the achievement of immediate workload with little longer term planning for how the industry will look in the future. In the current environment where they have plenty of work and little requirement to identify new opportunities, the current small employers have no driver to look into or take time off paid work to gain retrofit skills. Stakeholders thus report that many of the more specialist trades are brought into local areas from outside, leaving just a few firms in the Midlands to pick up the majority of the work. For instance, Internal wall insulation is conducted by just five firms in the Midlands area, however, there is a far larger number of employers who undertake dry lining, plastering and interior systems, who could easily offer internal insulation as a retrofit activity but do not need to as they have sufficient work already. It can be difficult to communicate to SMEs as there are so many of them and they are focused on running their businesses. As such it will take a very concerted effort to successfully drive the message that there are long term opportunities in retrofit activity and that it will be worth the time and cost of gaining retrofit skills in their trade area.

One area of particular interest is the competence to fit air source heat pumps (ASHP). Currently there are just 38 firms approved to undertake this activity on Trustmark. In 2025, legislation will be enforced preventing the installation of gas boilers in new build homes[11]. Rather than seeing this as a threat, that this would attract all the qualified ASHP installers into new build from retrofit, the stakeholder felt this would have the opposite effect. By making ASHP 'mainstream' and increasing the awareness of them and mandating their use, it will drive up demand for them and substantially increase the volume of individuals getting qualified to instal them. Having spoken to a number of stakeholders, they feel that the major housebuilders are, of course aware, but are leaving it up to their supply chain to deal with. This is probably an acceptable tactic as there are a number of excellent training facilities in the Midlands, both public and private, and stakeholders felt that there was sufficient capacity in terms of tutors and infrastructure to manage the increase in upskilling courses that will be required.

The other skills of interest; External wall insulation, cavity wall insulation, loft insulation, Retrofit Designer/Coordinator and Assessor are all currently in demand and have insufficient trained people to deliver the work. Similar trades to these in demand are within the sector and so emphasis is needed to engage with these trades to promote the process of upskilling.

An important factor is the size of the companies working in retrofit and construction. Much of the work force are sole traders or small to medium sized companies that often rely on sole traders. As such it is very difficult to have an initiative that can engage with just a few companies and demonstrate a result. The task is much larger and more difficult than that as any initiative to increase the workforce in retrofit will very much need to be on a one-to-many basis. This means that low level initiatives, many of which may seem unnecessary and onerous at a higher level, will be needed to engage with the sector and those possibly joining the sector to make incremental improvements and increases in people and skills in the retrofit trades.

[11] HM Government – Heat and Buildings Strategy (publishing.service.gov.uk)

Lack of new entrants

There has been a long-term lack of new entrants joining the construction industry for decades, although there are signs that the skills gap is reducing. CITB's Construction Skills Network[12] estimates that there needs to be 45,000 new entrants to the UK construction industry each year. A significant proportion of these will be in retrofit or in trades that enable retrofit activity. For instance, before a Housing Association will instal solar PV on a dwelling roof, they will often need to replace the roof before installation to avoid having to remove and replace the panels in the near future when the roof needs maintenance. Thus, for retrofit to be successful sufficient skills need to be in the wider construction industry as well as in the immediate retrofit sector.

There is a great deal to be done to make green jobs and particularly retrofit jobs appealing to young people. A 2023 survey reported 37% of young people would not consider a career in construction and 73% felt uninformed of green career opportunities.[13] In order to increase the number of young people wanting to work in the retrofit industry, substantial effort is needed to inform young people and communicate the importance and advantages of retrofit careers.

Insufficient coordination to reduce unnecessary work or duplication

One way to address skills shortages is to manage the demand for the work or skills. There are opportunities in the Midlands Retrofit environment to reduce the skills gap by better managing the demand for skilled labour. Stakeholders felt that there were two ways to achieve this, both difficult but possible.

The first opportunity would be for a central capability to collect and make available the architype details and retrofit designs for the common dwelling designs found across the Midlands. Due to the historic expansion of housing demand in areas of the Midlands, it is often found that the same design, particularly for terraced houses, was used in a wide array of locations. If an organisation were to retain the retrofit data and energy efficiency measure designs for the most common archetypes of houses and make them available to the sector, these would reduce the amount of duplication and repeat work needed to be done across the Midlands, helping to address the skills gap. Some caution is needed, however, as many properties would have been variously altered during their life and this would need to be taken into account even if a standardised treatment was available for that architype as directed by PAS2035.

The current model of retrofit is normally on a dwelling-by-dwelling basis. This means that materials, tools and individuals need to frequently travel long distanced between retrofit jobs. The second opportunity would be to coordinate retrofit across the Midlands so that adjacent or near dwellings can be retrofitted at the same time or in sequence by the same contractors. This not only produces efficiencies for the retrofit workforce, but also for the wider construction industry, e.g. scaffolding. This would ensure the efficient use of the amount of skills and labour involved, driving down cost and increasing the availability of trades in demand. As currently a high proportion of retrofit is being conducted, promoted or paid for by Local Government and governmental arm's length bodies like Housing Associations, it should be possible to implement a system where future retrofit activity is planned to allow like organisation to identify opportunities for collaboration. By undertaking many instances of the same type of work across

[12] csn-national-report-final-report.pdf (citb.co.uk)
[13] UK students feel uninformed about availability of green jobs - EngineeringUK | Inspiring tomorrow's engineers.

many dwellings in an area, this may reduce the social issues associated with obvious retrofit work being conducted by a public sector owner.

This again may seem a small and insignificant improvement, the idea of just slightly reducing the amount of equipment and materials that are moved, however, retrofit needs to be conducted across the Midlands at an industrial scale for 25 years. Any initiatives that make small but meaningful time and cost savings that can be embedded now, and rolled out more widely, have the capacity to make huge compound savings when applied across the whole of the Midlands for the next 25 years. This coordination will require some people resource and cost to set up and sustain, however, it has the capacity to make every energy efficiency measure more achievable, that little bit cheaper and to ensure even the hard to address properties benefit from improvements.

Skill requirement and administration burden of retrofit lodgement for PAS2035

There was strong and universal stakeholder feedback on the volume of work that is needed by tradespeople to provide the necessary lodgement of evidence undertaken for Trustmark under ECO4 as part of the requirement for PAS2035. As tradespeople are often not suited to this type of work, it was suggested that there may be need for the upskilling of trades people so they are better able to undertake this requirement. It was also suggested that a skilled administrative role may be appropriate to support tradespeople with this burden.

Previous Steps to Develop a Retrofit Supply Chain and their Outcomes

There have been a number of initiatives over the years and most of these have been well received and reported on favourably by stakeholders.

The ongoing reputation of the 2012-2015 Green Deal continues to be sited as causing issues to the retrofit skills sector to this day and overshadows the good government skills programmes used more recently. The lack of uptake compared to what was foreseen and thus the investment in skills infrastructure that did not result in high volumes of learners, damaged the confidence the education sector had in investing in short term government supported programmes, especially with the sudden removal of the scheme. However, a number of good local initiative, many directly or indirectly supported by government funding have been initiated since and more are planned.

A short but not exhaustive list is here:

- **Department of Education** – The skills bootcamps for retrofit activity and trades associated with retrofit are popular and more training organisations are looking into offering them in the Midlands region. The Adult Legal Entitlement course Funding that included Level 2 and 3 qualifications in in-demand jobs areas was appreciated and now the Free Courses for Jobs is also being used to support Retrofit activity. The majority of training is still supported by the mainstream Adult Education Budget.
- **BEIS Skills Training Competition Scheme** – This funding was used by Dudley College and the Retrofit Academy to provide focused training in retrofit skills. It seems to have been well regarded and was successful in increasing capability in this area.
- **Nottingham Trent University** - Recently unveiled the Centre for Sustainable Construction and Retrofit. The Centre will be used as a hub for research, primarily investigating how the

built sector transitions to a low carbon future. It also serves in addressing the retrofit skills gap by providing short courses and professional development in construction and retrofit. Lastly, the centre will provide consultancy services to local business.

- **The TEC Partnership** - Run a variety of engineering, electrical and construction courses. The Grimsby campus for example currently has 214 students studying courses from Level 1 building services upwards with 20 adult learners and 64 students on full-cost commercial courses. They are starting to add sustainable aspects into their general courses, particularly those at a higher level, and have the funding to purchase an Air Source Heat Pump to demonstrate to students. They currently provide tutoring on renewables such as Solar PV, wind turbines and ground-source heat pumps.
- **Stamford College, Peterborough College and University Centre Peterborough are both part of the Inspire Education Group** - They offer a range of training qualifications from Level 2 Understanding Domestic Retrofit through to Level 5 Retrofit Coordinator in partnership with the Retrofit Academy.
- **Boston College** - They are currently in the process of establishing an air source heat pump centre to provide bolt-on training to its plumbing and heating courses but also offer a training opportunity for existing plumbing and heating engineers to diversify.
- **D2N2 and NTU** - Worked together to fund and develop skills bootcamps in retrofit. The bootcamps are a form of free and flexible learning that can last up to 16 weeks and equip the local workforce with the necessary retrofit skills and knowledge. Courses are developed in partnership with employers and there is a guaranteed job interview upon completion.
- **Vision West Notts** - Have entered a partnership with D2N2 and NTU to delivery retrofit skills training. Offering courses and T-levels in construction and retrofit.
- **Midlands Net Zero Hub** - Home decarbonisation skills training competition was a scheme to provide grant awards to training providers to deliver accredited training at scale to support the retrofit sector.
- **Chesterfield College** - Running the Staveley project which is a construction skills hub that will serve as a practical platform for construction training, careers activity and work experience on a live construction site in Mastin Moor. The College also provides T-Levels in construction and plans to introduce retrofit specific courses.
- **Private Trainers** - Our assessment showed that East Midlands stakeholders are mainly working with the following private companies: Retrofit Academy, Essential Site Skills, Unyte Academy, Elmhurst Energy, NIBE, and Gtech. PAS2035 training and certification is available from several of these.
- **Manufacturer trainers** – The British Gypsum Training Academy at East Leake, has significantly increased the volume of training they are offering in insulation installation, drylining and plastering. They are also doing more to support colleges and schools.
- **The Installation Assurance Authority** – Supporting the training capacity in the Midlands by building and opening a training establishment for retrofit in Leighton Buzzard.
- **Milton Keynes College** – Although just outside the Midlands, this college has a substantial capability to support retrofit activity and will be able to train individuals coming from the Midlands.

Stakeholders did report that they were not getting a significant amount of help from **CITB**, however, we engaged extensively with CITB officers who suggested that Retrofit and Green Skills was becoming a major part of their future strategy and so we can expect some additional support programmes from CITB in the future. National Federation of Roofing Contractors (NFRC) did feedback that CITB funded their courses in the 2010's on Solar PV installation, however, these were now in need of refreshing. CITB also offer in-scope employers the opportunity to gain significant grant funding to part fund training and upskilling. They also offer substantial apprenticeship funding.

It is also hoped that as Retrofit skills were mentioned in many of the Local Skills Improvement Plans (LSIPs), that the current Local Skills Improvement Funds (LSIFs) will be allocated to providing this important training in the future.

Current and Future Skills Needs

There are certainly substantial skills need for the Midlands, not only in retrofit but across all construction trades. The retrofit specific skills of note are discussed below in order of importance:

External wall insulation skills are an area of current skills need. This is an important area as many issues can be generated from incorrect installation. However, reports from the Property Care Association are that there are very few reported issues at the moment. Reports are that this area was overly represented by the European itinerant workforce, which has largely left the UK since Brexit. This has exacerbated the skills gap in this area, making it one of the most important areas for future skills needs and an area that needs particular focus.

Retrofit Advisor, Assessor and Coordinator roles range from level 3 to 5 and are integral to successful retrofit, especially to ensure the correct measures are taken in the right combination, that they are correctly and effectively carried out and that the occupier is happy during the whole course of the journey. Although beneficial that these individuals have previous built environment knowledge, they do not need to be a tradesperson or hold a particular current role in the sector. As such this is a perfect role for individuals transitioning careers. The major issue with these roles is the fact that they are very new jobs with very little history of the role. The Birmingham Retrofit skills plan identified only 70 individuals across Birmingham who were accredited to carry out this role, Bolsover identified 3. As such the general public are largely unaware the role exists or what is involved in it. Appendix F shows the number of each retrofit qualification awarded across the UK in the past 5 years, and although it has increased substantially, there is still a small number of individuals gaining this qualification compared to demand. This role would particularly benefit from a region wide awareness campaign as part of a wider retrofit awareness effort.

Retrofit Designer and Evaluator are professionals who will need to have higher level qualifications or equivalent. As such there are individuals available to transition to this work, but it is likely that individuals may well retain work in their original occupation whilst also undertaking retrofit activity. As such these individuals need increased knowledge, but as well-educated individuals already they will be able to achieve this in the most suitable manner for themselves. This could be facilitated in the Midlands by improved sign posting to the roles, the size of the future opportunity and the preferred means to achieve the upskilling required.

Internal Wall Insulation is an area of current growth with the British Gypsum training academy reporting that they are seeing a significant increase in interest for their courses. IWI will always be a difficult area that will have limited appeal due to the disruptive nature of this work on the occupier and the reduction in living space that results. However, for listed buildings and those in

conservation areas, this is one of the most viable EEM to reduce heat loss. As such, although important the volume of skills in this area will be limited and wants to be accommodated by the interior systems and drylining trades, however, they will need significant encouragement and inducements to upskill.

The number of **Air Source Heat Pumps** (ASHP) being installed is quite low due to a lack of demand. This will of course change significantly in 2025 when new build dwellings require them. Rather than this be a threat to the retrofit skills landscape, where we see the few ASHP installers being taken by the new build sector, the stakeholders unanimously agreed that this would stimulate the market, drawing more installers in and causing there to be more retrofit and new build capability. One of the most important new skills that is required from a number of trades involved in ASHP is the requirement to ensure that the controls systems or subsequently added smart controls are set up correctly to ensure the maximum efficiency of the ASHP system. Emphasis is required from any future retrofit skills planning that sufficient training is provided in ASHP, especially for the upskilling of the existing plumbing workforce.

Cavity wall insulation and **loft insulation** are more imbedded trades. It is likely that the organic growth in these areas will require an increase in skilled individuals, however, the current employers in this area should be able to source sufficient skilled capability. This assumption is only correct as long as no grant or funding initiative is brought in that substantially and quickly increases the uptake in these measures. As we have seen before, if a particular measure becomes significantly more economically desirable, there will be sudden demand and the human resource is likely to be unable to scale up in time. This is when untrained and insufficiently experienced trades people enter the market and cause issues for householders and damage the reputation of the sector.

Solar PV is a role that seems to divide opinion. We have had stakeholder feedback that it is an area of skills need currently and others saying there is sufficient resource at the moment. There does seem to be a lack of clarity over the installation and roof fitment of the panels opposed to the electrical installation and any battery installation work required. Solar electrical work is well covered in the current electrical qualifications and due to the popularity of this measure there seems to be sufficient capable individuals. Some of the issue is that there may well be installers who are not MCS registered and as such are carryout work, correctly, but it is not covered by warranty. As such these installers are hard to quantify. The National Federation of Roofing Contractors (NFRC) are concerned by the current competence of Solar PV installers. They are seeing damage and issues caused by installers due to their lack of knowledge in roofing. Many imported frame systems are designed for different roofing structures than those found typically in the UK. As such greater knowledge and skill is required when installing them even on modern roofs. This is compounded by a lack of knowledgeable inspection capability signing off the retrofit works even though damage to the roof structure has occurred. NFRC is also concerned about the competency of retrofit Solar PV designers who are not sufficiently aware of the structural capacity of some roofs and the maintenance condition leading to unsuitable designs. Finally, both of these points are compounded by their being insufficient maintenance and subsequent inspection of both the roof structure and particularly the electrical condition, leading to the possibility of electrical fires in the longer term.

General Retrofit Knowledge

Other construction roles that effect the roll out of retrofit, e.g. roofing, may well become a bottleneck to the successful achievement of the number of expected measures carried out in the next decade, however, these need to be addressed by CITB and their associated Federations or Associations.

The greatest skills need across construction trades is a good appreciation of retrofit measures and how not to negatively affect them by future works. It is known that incorrect repairs and maintenance can cause significant issues with thermal bridging, causing condensation and other changes that can undermine the retrofit measures e.g. incorrectly set up of smart control on ASHPs. As such there needs to be an effort across the industry to instil greater knowledge of retrofit and the systems used to all trades and Building Control, not just those actively working in the retrofit sector.

Similarly, all trades, both within retrofit and across construction would benefit from an understanding of whole house/deep retrofit, the different measures available and how they interact with each other.

Section 2 – Proposals

Recommendations

Procurement and Frameworks

It is hard to dissociate procurement and frameworks and their effect on skills and competence from the demand for retrofit service that they cause. This is due to the demand for the retrofit measures themselves and how they are funded, having a direct effect on the employment demand and the subsequent skills gap produced. More retrofit installation equals more skilled resource required. However, as a skills plan we can not focus on how the retrofit activity is promoted or funded as part of procurement activity via frameworks.

Stakeholders did of course say that the longer and more stable the funding project was, the greater the ability to recruit new individuals and get them trained up. This has a knock-on effect to the offer from training providers and colleges. Many of the procurement exercises have required measures to be implemented very quick, preventing the ability to recruit and train individuals before the funding has needed to be drawn down. There is a substantial duration required for retrofit activity from start to completion and this may not be fully appreciated by funders. Once the funding has been gained, suitable dwellings need to be identified and approval for the work to be done. This may take a significant amount of time due to the disruptive nature of the works and the lack of clear need or benefit that many occupiers perceive. Once approval has been gained, the designs need to be undertaken and then tradespeople lined up. Due to the substantial pipeline of work most firms have, there will be substantial delays during this phase. The works can then be carried out and the evaluation done. This whole process is likely to take more than a year, however, no party is working on it for any protracted period. Thus, the use of each individual piece of work to trigger approval to recruit and then the training required is impossible. For there to be substantial employment and training in the sector, employers need to know there will be repeat work for three to five years before they are confident to take on the burden of employment and training.

Successes that have been quoted are the feed in tariff and the effect this had on stimulating Solar PV uptake, however, this was available for 9 years under varying values and constraints. The other is the Energy Provider Grants for cavity wall and loft insulation, which was again a long running programme under written by available funding that looked like it was going to be available for a protracted length of time.

For retrofit to be successful now and in the future, similarly, long running schemes are needed to give employers and employees sufficient confident to join the industry and gain trade training.

Access to Funding for Small and Medium Sized Enterprises

Access to funding for retrofit is via the Government Grants e.g. ECO4 and via Procuring bodies like Local Authorities and Housing Associations. Housing Associations (HAs) are currently driving the majority of uptake on most EEM with the exception of double glazing and solar PV which are selected for by private owners and landlords. Housing Association are keen to use SMEs as they get best value and have a great chance of procuring within their local area. Larger primary contractors and National employers will still invariably subcontract to local SMEs anyway and so HAs are keen to deal with the SME directly. Where this does not work is when SMEs are unable

to get MCS accreditation or are not part of Trustmark preventing them from bidding for work. This then requires larger firms to support the delivery using subcontracting.

Stakeholders have fed back that a greater number of SMEs and micro companies would be able to access more funding if there was support gaining MCS accreditation and there was better guidance to develop the skills required for Trustmark data lodgement. Later on, SMEs, particularly micros, need support becoming eligible to apply for Local Authority and Housing Association contracts. This retrofit employer support could be provided by a dedicated centralised retrofit skills team or hub.

A skills grant or training fund should be set up to allow SMEs to upskill their employees in retrofit. Many SMEs cannot afford the cost of training or the time the individual needs to take off from working to attend training. As such a local fund to support SMEs, which are the backbone of the retrofit industry, should be considered to facilitate the transition of fossil fuel skills to the low carbon skills of the future. There is precedent for this, the D2N2 LEP last year offered £500 for Heat pump installation training. A combined fund could be put together by the Local Authorities, Combined Authorities utilising the LSIFs and supported by Central Government. This could be additionally supported by CITB who already offer training support but could be approached to offer addition support for retrofit for a limited period.

Historically SMEs provide more placements to apprentices than larger companies. This has not been the case during recent years due to the Apprenticeship Levy being paid by larger employers and the volume of complex administration that is required now when taking on an apprentice. To turn this around for Retrofit SMEs, it is suggested that funding be provided to assist SMEs to take on retrofit apprentices, like those studying for the Low Carbon Heating technician apprenticeship or Retrofit Coordinator apprenticeship (still in development). It could even be used to require plumbing apprentices to follow Option 4 of the Plumbing standard which covers low carbon heating, but which is currently seldom chosen as an option. This funding can be used to provide support from an experienced team of administrators who can support the employer and apprentice through the complex journey of the apprenticeship process. This would remove the major barrier to SMEs and maximise the number of retrofit apprenticeship positions offered in the Midlands. Having professional support will also make it more likely for the apprentice to complete their course and the additional requirements for certification. This would give better return on investment for the apprenticeship tuition funding across the region.

Local Skills Needs

There are substantial local skills needs and if the demand for retrofit increases these skill needs will increase. The constituent local skills plans and our stakeholder engagement did not point to a significant variation in the skills required by the rural areas compared to the urban locations.

As has been discussed there is a need to get more young people interested and joining the retrofit industry. A local schools programme should be developed and implemented to raise awareness and interest in joining the retrofit sector across local schools.

Training Infrastructure and Provision

Stakeholder feedback on the training infrastructure was that the Midlands is in a very good position. If the skills needs increase substantially due to a very successful funding regime or due to legislation, then it would be difficult for the training establishments to increase with sufficient

speed. However, this is unlikely to happen and if the current organic growth continues linked to a likely uptake in retrofit activity, then the training infrastructure in the Midlands will be able to cope. There is already excellent University, College and private training provision in the region undertaking the delivery of both knowledge and competency training.

It is likely that private training providers will quickly pick up the lead in skills delivery as they are able to implement quicker solutions and are able to attract the tutors required. Tutor availability was suggested as an issue by some stakeholders, but others disagreed. Whenever there is a demand for skills, trained individuals are more likely to work in industry or 'back on the tools' than they are to enter or continue within training establishments. This is because when there are skills demands individuals can get local work, can define their working arrangements and earn more than in education. What is clear is that the state funded provision has more issues attracting tutors due to their wage constraints, however, Colleges should be able to follow the private training providers to offer retrofit training, especially if there is a Midlands Retrofit Hub capability supporting the facilitation of tutors from private training providers to colleges when they are needed. Other incentives, like those already used from time to time by the Department of Education, are likely to be needed to attract retrofit tutors, especially if there is a sudden increase in retrofit demand. If there is an increase in tutors across the Midlands, the Colleges will be sure to benefit eventually. Equally, if a central supporting capability was able to provide skills and employment intelligence then it would give the colleges greater assurance to build up their capability. Again, CITB is looking to offer specific grants for tutor and assessor training, which could be used by the retrofit sector to support their training needs in in-scope trades.

Greater availability of short upskilling courses should be supported across colleges and private training providers. This will allow for micro credentials to be built up by existing workers flexibly and efficiently. Topics would vary from focused training on a single method, to combining insulation methods to how to ensure retrofit methods are correctly sequenced for site managers. A suite of these courses could be commissioned by a centralised retrofit team and made available to the providers, increasing standardisation and promoting the use of the same definitions and trade vocabulary. This training would also be very useful to those commissioning and purchasing retrofit activity as an additional check to ensure that the energy efficiency methods being used are correct for the situation and that fabric first principles are applied. It would also be very useful for Building Control Officers and supervisors who need to check that retrofit activity has been done correctly and appropriately.

To address the low level of new entrants to the sector we would recommend that a set of retrofit career pathways be developed that can clearly demonstrate the jobs and advancement opportunities available across a career in retrofit. This would remove the barrier to individuals joining the sector from thinking that there was little or no progression on offer. It would also clarify the training and qualifications they would need to start their career and high light the opportunities to transition across roles in the low carbon economy giving them an appreciation that they can multi skill and gain variation in their career.

Coordination and a Regional Solution

We would envisage the need for three separate regional coordination solutions.

There is the need for a high level regional retrofit steering group. This would be made up of the skills organisations, employers, manufacturers, beneficiaries and clients of the retrofit sector. It would allow regional direction to be provided and would promote the acceptance of regional skills solutions making them more likely to be adopted and supported.

This organisation can also be a strategic mouthpiece for the Midlands retrofit industry on a national stage, helping to shape policy and wider skills initiatives. This would include the promotion of a national standard for the skills across all retrofit measures.

The second solution would be a team or hub to support the steering group, implement its requirements and to provide wider skills support to the regional sector. This would not need to be established in a single location but could be spread across the excellent retrofit and Net Zero coordination organisations across the regions. What is necessary is that there is dedicated resource to implement the large number of activities needed and the additional tasks that will be presented in the future in a coordinated regional manner. This team would need to be funded for at least three years, but a five-year duration would be more likely to be successful. An annual review would be need by the funding department or midlands retrofit steering group. There is some current funding available for this role from the MCS Foundation and UKGBC, and these funds could be used to partially fund the midlands retrofit skills team. It is very important that the activities pursued by this organisation are implemented impartially in terms of location, company or provider and that they do not duplicate any roles being undertaken effectively by another organisation.

They would be able to provide information and data for the midlands retrofit sector. As the recent DNV report says, - to get societal engagement, impartiality is essential 'Establishing independent bodies that can provide trusted advice to people is key for the communication campaign'.[14] This role would include being a repository for archetype retrofit designs and treatments, intelligence on regional skills and employment, as well as potentially a list of future retrofit work that needs to be conducted. This would be similar to the Welsh Carbon Hub[15]. This data could be used by the team to deliver engagement activities of employers in the region suitable to transfer their activities into retrofit, promoting the number of organisations offering retrofit services. Along with this service the team could also promote and coordinate the training provision across the region, signposting employers to the most appropriate provider and working across providers to ensure all skills were offered across the region and to minimise unnecessary duplication.

This team could ensure the production and ongoing maintenance of the retrofit careers map making it available to schools and learners. This would be combined with running a programme of youth engagement via schools and career fairs.[16]

The stakeholders reported the variation in viability and the skills needed between projects in all areas. It was reported that the housing stock that was well known to contractors, as having easy access and involving known measures, were often selected over the dwellings that were more difficult to conduct measure on. Examples of difficult to address dwellings include; those in conservation areas, listed buildings and those with difficult access. By having an integrated and shared regional plan of delivery requiring contractors to implement the necessary measures on all eligible properties in a specific area would increase the efficiency of the retrofit activity. Addressing all eligible dwelling in close proximity would decrease, travel and transport time and costs, and would also enforce that difficult to retrofit properties were addressed at the same time as those that are easier to deliver. Holding and maintaining this book of works could be conducted by this team as well as coordination between owners and landlords to integrate their retrofit activity. This is of particular interest to the smaller HAs who will not be able to afford retrofit on a

[14] DNV Outlook Report UK 2024.pdf
[15] Home - Carbon Hwb (zerocarbonhwb.cymru)

[16] Sustainable Construction Careers Fair – Construction Wales Innovation Centre (CWIC)

case-by-case basis. If focused local activity was undertaken this could also remove any potential stigma from a dwelling being the only one to be retrofitted and what that signals about the ownership of the property and the status of the occupants. To explain this last point, there is anecdotal evidence that as the majority of retrofit work is being conducted by Housing Associations, having this work being conducted on your dwelling indicates that you are in 'social housing'. This may indicate to the wider community the socio-economic group of the inhabitants, which may not be desirable to the occupants.

Finally, the team could be used to administer training fund payments for local providers or could develop a capability to encourage and support apprentices and their employers. This could also include placing prospective apprentices with employers.

Although not a skills issue, if there was a regional retrofit team, they could also be used to communicate the benefits of retrofit to homeowners and support the demand for retrofit activity across the region.

The third solution would be a retrofit employer forum or network. This would allow current and prospective retrofit companies to discuss issues and share solutions. It would allow the mentoring of smaller companies by the larger ones who could benefit from a subcontracting capability in the region, especially in specialist skills. This would allow the growth of the sector and give a voice to the companies who deliver retrofit on a day-to-day basis. This could then be championed by the steering group or could be straight away enacted by the retrofit team if there is agreement and budget.

The details of each recommendation are listed at Appendix B, the Skills Plan. there is greater detail on the make-up and resource of the Midlands retrofit skills team at Appendix D. The nine recommendations reflect the various recommendations of the three local skills plans.

Midlands Net Zero Hub has sought to look into and provide a skills implementation plan that will support the immediate, short term and medium-term needs of the Midlands' requirement for Energy Efficiency Measures. As such the skills plan highlights the immediate actions that can be taken covering up to the 3rd quarter of 2024 in Appendix A at the request of the Department. The activities in Appendix A are directly aligned to the main plan shown in Appendix B which demonstrated how the delivery in 2024 can be built on over a 3-to-5-year period should there be further funding available.

The nine actions in brief:

1. Establish a Regional Retrofit Leadership / Collaboration Group – To guide the Retrofit Hub and advise Government, Local Authorities and Midlands' Councils.

2. Dedicated Midlands Retrofit Skills team to undertake a number of actions – To coordinate local skills initiative, provide information and intelligence and undertake engagement and coordination tasks.

3. Retrofit Employer Forum / Network – To promote supply chain companies, particularly micro and small enterprises, to be given support to expand and be more resilient. Matching existing accredited businesses with those seeking to access market as well as to promote introductory training and PAS2035 training.

4. Development and implementation of a Careers Map, Schools awareness programme and a youth engagement programme – To promote the number of new entrants and career changers to join the sector as well as awareness for careers influencers.

5. Training fund for SMEs and individuals transferring into Retrofit - Funding for training places, certification, micro credentials. Much of this can be sign posting to currently available sources of skills funding.

6. Review National standards for retrofit skills across all measures - Regional and local representative for national standards to give standardisation to retrofit measures and consistent quality and approach for customers so that skills are harmonised where possible across the UK.

7. Development of a communications plan to raise awareness of retrofit as a career and training available. – Aimed at trades people, new entrants and career transitions to become aware of the Retrofit sector and make them better able to identify courses which match their needs.

8. Encouragement to employers to take on Apprentices and support with Managing the Apprentices - People resource to support retrofit apprentices and their employer. Supporting employers with administration burden and support the apprentice in their onsite employment. This will help maximise the number of apprentices who finish their training, pass their qualifications and gain employment.

9. Provide skills and employment intelligence - Data on current skills and employment. Forecast skills demand from modelling.

If these 9 actions are implemented there will be a very strong likelihood that the skills and people resource required for the Midlands to achieve their net zero requirement by 2050 will be available and that the required activities can be conducted safely and to a high quality.

This does of course depend on a gradual and manageable increase in retrofit demand. Even then, due to the ongoing skills gap across the construction industry, a continuous level of effort and the implementation of various initiatives will be needed to provide sufficient trained resource. If there is a large increase in demand at any point, there will be an increased skills gap that will require even greater efforts to address. The slower the uptake in retrofit demand is now, the greater the eventual jump in demand will be as the 2050 deadline for net zero draws nearer and more efforts will be required to achieve the legally binding target. This will cause a significant skills issue. For this reason, every effort needs to me made to continue to support the demand for retrofit in good time so that less activity is needed closer to the deadline.

APPENDIX A - Regional Retrofit Skills Plan – 3 to 5 months

Key: OP – Opergy Recommended Action, KPI – Key Performance Indicators

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
OP4 - Development and implementation of a Careers Map, Schools awareness programme and a youth engagement programme					
OP4.1 & OP 4.1.1	**Bolsover District Council (BDC) Retrofit Careers Pathway** Marketing and pre/post-16 engagement	Overarching net zero careers and complementary retrofit careers engagement copy, and presentation materials aligned with regional careers engagement processes / Gatsby framework. Pilot materials through engagement with the Bolsover School and plan for post-pilot regional dissemination with Derby Derbyshire Nottingham Nottinghamshire (D2N2) Continuous Professional Development (CPD) materials and sessions for Bolsover or regional teachers and careers professionals.	£22,990.00	BDC, Rider Levett Bucknall (RLB), colleges, D2N2, Careers & Enterprise Company, Direct Education Business Partnership (DEBP)	Number of CPD materials produced Number of GATSBY-aligned materials produced and reviewed Strategy produced Number of participants at CPD session Follow up KPIs: Number of careers service / young people engaged Number of organisations materials shared with Number of CPD teacher / careers hrs delivered / Number people trained Number of young people joining relevant course Number of schools/young people/teachers across region engaged with materials
OP4.2	**Retrofit Training and Training Infrastructure (Bolsover District Council)**	Training rig, train the trainer and time buy out for University of Derby and Nottingham Trent University (NTU).	£30,000	BDC University of Derby NTU	Number of training rigs Number of staff trained
OP4.3 & OP4.3.1 & OP4.3.2	**Birmingham City Council (BCC) Retrofit Careers Pathway** Marketing and pre/post-16 engagement	Retrofit careers pathway materials adapted from BDC's retrofit career materials, partners identified, engagement events.	£46,852.50	BCC, RLB, regional colleges and universities, Birmingham Careers Service, regional contractors	Number of GATSBY aligned engagement materials created and disseminated Pathway strategy created Engagement session content and materials produced Follow up KPIs: Number of Birmingham residents/young people engaged

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
OP4.5	**Retrofit Training and Training Infrastructure (Bolsover District Council)**	Retrofit low carbon technology training rigs, train the trainer courses for Microgeneration Certification Scheme (MCS) or equivalent for Chesterfield College	£44,000	Bolsover District Council Chesterfield College	Number of training rigs installed Number of trainers trained Follow up KPIs: Number of employers engaged Number of work placements agreed Number of students supported with integration of retrofit and low carbon knowledge per year
OP4.6	**Retrofit Training and Training Infrastructure (Bolsover District Council)**	Retrofit low carbon technology training rigs, train the trainer courses for MCS or equivalent for Vision West Notts College	£43,000	Bolsover District Council Vision West Notts College	Number of training rigs installed Number of trainers trained Follow up KPIs: Number of employers engaged Number of work placements agreed Number of students supported with integration of retrofit and low carbon knowledge per year
OP4.7	**Retrofit Training and Training Infrastructure (East Lindsey District Council (ELDC))**	Retrofit training rigs and train the trainer courses for MCS certification and/or partial staff time buy out for employer work placement retrofit identification for relevant retrofit courses	£44,000	East Lindsey District Council Skegness and/or Boston College	Number of training rigs installed Number of trainers trained Follow up KPIs: Number of employers engaged Number of work placements agreed Number of students supported with integration of retrofit and low carbon knowledge per year
OP4.8	**Retrofit Training and Training Infrastructure (Birmingham City Council)**	Retrofit training rigs and train the trainer courses for MCS certification and/or partial staff time buy out for employer work placement retrofit identification for relevant retrofit courses	£88,000	BCC, Birmingham Metropolitan College, Tyseley Energy Project/Webster & Horsfall, Birmingham Construction Skills Alliance, South & City College, University College Birmingham and/or Walsall College	Number of training rigs installed Number of trainers trained Follow up KPIs: Number of employers engaged Number of work placements agreed Number of students supported with integration of retrofit and low carbon knowledge per year

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
OP7 - Develop a plan and conduct research to support the future development of a communications plan to raise awareness of retrofit as a career and training available.					
OP7.1	**Retrofit Skills Coordination Pilot (Bolsover District Council)**	Collaborative group with up to 18 Derbyshire and Nottinghamshire councils -Bolsover, Partners and RLB will pilot the regional retrofit skills support over the project that was identified in research. 2 workshops (Bolsover supported by NTU and/or other partners) and convening meetings with East Midlands LA energy officers - define useful roles and launch coordination activity between LAs, educators and retrofit employers.	£19,905	BDC, RLB, 18+ local authorities of East Midlands Energy Officers Group, Further Education (FE) partners	Formal partners agreed, Number of employers engaged Number of councils supported Post-delivery period - e.g., number of training places matched/filled, number of work experience hours agreed, number of employers engaging with educators or learners, number of local authority retrofit plans supported.
OP7.1.1	**Retrofit Training for staff (Bolsover District Council)**	Retrofit training for Bolsover District Council's internal staff	£5000	Bolsover District Council Elmhurst	Number of staff trained
OP7.2	**Retrofit Skills Coordination Pilot (East Lindsey District Council / Lincolnshire)**	Establishing formal links with colleges, employers and other key stakeholders and coordinating the rest of the activities / funding. Ensure findings inform business case for permanent coordination. Establish steering group for region including LA, Educator and Supply Chain input.	£11,827.50	ELDC / Lincolnshire RLB	Formal partners agreed, Number of employers engaged Number of councils supported Post-delivery period - e.g., number of training places matched/filled, number of work experience hours agreed, number of employers engaging with educators or learners, number of local authority retrofit plans supported.
OP7.2.1	**Retrofit Training for staff (East Lindsey District Council)**	Retrofit training for East Lindsey District Council's internal staff	£5000	East Lindsey District Council Elmhurst	Number of staff trained
OP7.3	**Retrofit Skills Coordination Pilot (Birmingham)**	Establishing formal links with colleges, employers and other key stakeholders and coordinating the rest of the activities / funding. Ensure findings inform business	£11,827.50	Birmingham City Council RLB	Formal partners agreed, Number of employers engaged Number of councils supported

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
		case for permanent coordination. Establish steering group for region including a LA, Educator and Supply Chain input.			Post-delivery period - e.g., number of training places matched/filled, number of work experience hours agreed, number of employers engaging with educators or learners, number of local authority retrofit plans supported.
OP7.3.1	**Retrofit Skills Coordination Pilot (Birmingham)** BCC Staff buy out time for governance, coordination and local PM input	As above	£10,000	As above	As above
OP7.4	**Stakeholder Engagement Events – Bolsover District Council**	Retrofit Training Provider Steering Group and Employer Engagement Events Budget	£14,500	BDC / ELDC / BCC / RLB / NTU and other partners	Number of events Number of employers engaged Number of course offerings influenced with employer demand/needs Number of work placements agreed Number of preliminary commitments for regional training investment linked to upcoming/current LA delivery pipeline
OP7.5	**Stakeholder Engagement Events – Birmingham City Council**	Small Medium Enterprise (SME) networking retrofit as part of a series Meet the Buyer / Meet the Colleges / University Events and follow up engagement	£7,500	Birmingham City Council Acivico Group	Number of employers engaged Number of workshops held Follow up KPIs: Number of placements identified Number of specific training needs identified and/or matched with provision
OP7.6	**Procurement and framework support– Bolsover District Council** Collaborative retrofit skills approach through LA Retrofit	Support the development of a collaborative Social Value retrofit skills approach for upcoming Social Housing Decarbonisation Fund (SHDF) Wave 3 and concurrent funding between local authorities in East Midlands leveraging the	£10,710	BDC, RLB, interested LAs in East Midlands	Number of councils supported Strategy/action plan/forum produced Potential follow up KPIs: Number of additional training actions identified/committed via pipeline leverage

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
	Procurement (HUG2/SHDF Wave3 and others)	East Midlands Energy Officer's group with 18+ local authorities. Convene up to two workshops with interested local authorities to • develop action plan for a LA-led collaborative forum and for regional retrofit skills improvement, including actions for procurement • propose channels for educator engagement and maximise training opportunities related to regional delivery of this scheme.			Number of procurements / contracts supported or enhanced
OP7.8	**Procurement and framework support– Birmingham City Council** Retrofit Skills leverage identification from procurement and social value review and recent contractor market engagement	Review of current and upcoming social value and skills obligations in regional contracts. Support Local Authorities with supplier engagement on current contract. Assessment of what has not been delivered--where no content or requirement exists, support engagement for voluntary actions and record actions already taken place. Survey current contractors in LA delivery schemes for trainings voluntarily undertaken. If possible, leverage current contracts across Midlands to target support for MCS / PAS 2035 or other required certification. Review training and social value framework and contract level engagement and requirements.	£8,055	Birmingham City Council, interested LAs in West Midlands	Number of training places agreed Number of local authorities supported Number of links between contractors on current projects and training providers Number of commitments made by suppliers Number of applications, procurements, or contracts influenced
OP7.9	**High-level combined delivery findings report – Bolsover District Council**	This report will incorporate combined delivery findings, monitoring framework and high-level concise report covering description and evaluation of activity as well as lessons and recommendations for taking forward into permanent delivery for	£5,857.50	Bolsover District Council and Rider Levett Bucknall	KPI Framework, outputs report, guidelines for monitoring ongoing KPIs

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
		Midlands. Outputs from all pilot workstreams will be included.			
OP8 - Encouragement to employers to take on Apprentices and support with Managing the Apprentices					
OP8.1	**Employer and supply chain coordination – Bolsover District Council** Establish and Pilot Retrofit Employer Forum	Employer forum structure, guidelines and 2 workshop meeting outputs, mapping of local initiatives and national ones to test with employers, concise report evaluating employer engagement appetite and case for continuing regional employer forum on permanent basis	£14,002.50	Bolsover with support from RLB, may cover Birmingham and East Lindsey also where appropriate	Number of employers engaged Number of committed pilot employer participants in forum Number of training needs identified Number of employers who receive local provision information Number of worker and learner placements identified
OP8.2	**Employer and supply chain coordination – Bolsover District Council** Supply chain engagement support via Bolsover for East Midlands Chamber or another partner	As above	£12,000	East Midlands Chamber, RLB and BDC	As above
OP8.3	**Retrofit Training Infrastructure (Bolsover District Council)**	1x heat pump training rig for North Notts College (RNN Group)	£12,847.50	Bolsover District Council North Notts College (RNN Group)	1 Heat pump training rig
OP8.5	**Employer and supply chain coordination – Birmingham City Council** SME training support materials with	SME training and support pilot copy for engagement materials for SME-traders and micro-businesses to enter retrofit sector. Create communication and training materials, hold up to 1 SME workshops, collect information on upcoming opportunities. Identify specific	£5,137.50	Birmingham City Council, RLB, Contractors, Partner Local Authorities	Number of copy/training material produced Number of SMEs engaged Follow up KPIs: Number of specific training courses or needs identified

REF	ACTION	EXPECTED OUTPUT	COST	WHO	KPIs
	contractors	SME funding needs for future retrofit delivery. Encourage participation of larger contractors to highlight upcoming opportunities and requirements.			
OP8.6	**Work Experience Rotation Coordination – Bolsover District Council**	High level strategy for retrofit workplace coordination by DEBP Retrofit training from Elmhurst for BDC Staff who will engage with work experience on retrofit after they are trained in retrofit	£8,000	BDC, RLB, DEBP, Elmhurst	High level strategy for retrofit workplace coordination Number of staff trained

The total cost of all these activities by Summer 2024 is estimated at being **£481,012.50**. This figure is gained from the detailed estimations with the 3 local skills teams on the activities they could implement quickly if they also gain local approval and resource is available. The cost break down can be found in the 'Cost' column in the table above. Some actions will not be applicable if future funding is not available to implement the developed plans.

Appendix B - Regional Retrofit Skills Plan – 3 to 5 years

Key: OP – Opergy Recommended Action, KPI – Key Performance Indicators

REF	ACTION	TIMESCALE	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
OP1	Establish a Regional Retrofit Steering Group	2024 - 28	Guide the Retrofit Hub Advise Government and Authorities	£35,000	MNZH / PCA / IAA / NIA / MCS / HAs / Local Authorities / CITB / Education Providers / SME sector / House Builders / Manufacturers	Quarterly progress reports Clear strategy developed for the Retrofit Hub. Annual satisfaction survey	No single organisation takes responsibility for moving things forward. Overlap with other regional groups sends a confused message. May not be localised enough to engage with SMEs on the ground	Bringing together coordinated action between different parties involved in retrofit supply chains. Provides long term planning and solutions
OP2	Dedicated Midlands Retrofit Skills team to undertake a number of actions	2024 – 2027	Coordinate Policy Link organisations and resource. Report on skills. Advise on Funding Sources Undertake events and communication of opportunities. Align and Coordinate training capability	£500,000	Combination of current capability, coordinated by Dedicated Midlands Retrofit Skills team	Number of SMEs engaged. Number of SMEs gaining accreditation. Number of SMEs bidding for procurement opportunities. Number of local training courses provided.	Fixed Term position so legacy needs to be ensured otherwise the benefits will not be realised. Could lead to reliance on others. Education providers and SMEs fail to engage	Trusted partner provides support to help SMEs with challenges and overcome areas they don't have the capacity to resource alone Dedicated resource to help match education providers with the industry and support a programme of events and awareness activities

REF	ACTION	TIMESCALE	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
OP3	Retrofit Employer Forum / Network	2024-28	Supply chain, particularly micro and small enterprises, given support to expand and be more resilient. Matching existing accredited businesses with those seeking to access market. Introduction Training and PAS2035 training	£76,000	Dedicated Midlands Retrofit Skills team	Number of engagements, workshops Value of contractors formally participating. Number of mentor schemes established. Number of SMEs gaining accreditation. Number of SMEs contracted to deliver works. Number of micros engaged. Number of training courses completed	A risk is that other barriers to participation, like inconsistency of demand for retrofit, will make this effort less effective. Number of sessions depends upon funding that can be leveraged. Micros won't engage.	SME retrofit sector that is better able to meet demand and employ more staff.
OP4	Development and implementation of a Careers Map, Schools awareness programme and a youth engagement programme	2024 – 28		£2,000 per event £10,000 for careers microsite, career pathway and case studies Total - £16,000	Dedicated Midlands Retrofit Skills team, DfE, LA/CA education departments	3 x careers events held Midlands Retrofit Careers Pathway developed Midlands Retrofit Careers Pathway launched	Education providers don't engage due to pressures on existing curriculum	Trainees benefit from a clear route to qualification and progression, with potential employers identified.
OP5	Training fund for SMEs and individuals transferring into Retrofit		Funding for places, certification, micro credentials. Much of this can be sign posting to currently available sources of skills funding.	£90,000 This will be substantially added to from current offer in AEB, CITB Grants, Apprenticeship Levy and LISF funds.	Dedicated Midlands Retrofit Skills team, CITB, training providers	Amount spent on certifications / training. Number of people trained. Amount of funding raised for future training	The risk however is that flexible funding struggles to find uptake. We will reduce this risk by incorporating this in early engagement to identify routes for this funding from commencement.	Flexible funding would support increased uptake in priority partner regional retrofit training that is already underway. More businesses skilled and providing retrofit with the potential to expand.

REF	ACTION	TIMESCALE	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
OP6	Establish National standards for retrofit skills across all measures	2024-25	Regional and local representative for national standards to give standardisation to retrofit measures and consistent quality and approach for customers	£8,602	Dedicated Midlands Retrofit Skills team, CITB, other Retrofit hubs	Consistent guidance / requirements for accreditation for specific measures	There is a risk of spending too much time in conversations with national partners if the engagement is not highly targeted.	Regional and local stakeholders are often not aware of, or have inadequate time to, engage in many regional and national green skills and retrofit workforce initiatives. Resource dedicated to feed into this would be very welcome.
OP7	Develop and implement communications plan to raise awareness of retrofit and training available.		Trades people, new entrants and career transitions become aware of the Retrofit sector and better able to identify courses which match their needs. Increased publicity about retrofit increases demand.	£25,500	Dedicated Midlands Retrofit Skills team, external provider	Number of people gaining retrofit training and qualifications (new entrants). Number of people gaining retrofit training and qualifications (current trades). Number of trained individuals increases	Spikes in demand due to inconsistent funding which lead to difficulties in planning work and courses.	One clear message to general public with clear signposting to retrofit training and employment.
OP8	Encouragement to employers to take on Apprentices and support with Managing the Apprentices	2024 – 28	Support to retrofit apprentices and their employer. Support employer with administration burden and support the apprentice in their onsite employment	£500 per learner. 200 apprentices Total £100,000	Dedicated Midlands Retrofit Skills team, CITB (NEST), IfATE	Maximise the number of employers who take on apprentices. Employers who do take on apprentices want to take on subsequent apprentices. Maximise the number of apprentices who finish their training, pass their qualifications and gain employment	DfE see this as an unnecessary expense. Due to complexity of Apprenticeship system, employers still decide to not continue. Due to other issues learners still decide not to complete.	Better use of public money as more apprentices will be taken on and more will complete their training.

REF	ACTION	TIMESCALE	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
OP9	Provide skills and employment intelligence		Data on current skills and employment. Forecast demand from modelling	£30,000	Dedicated Midlands Retrofit Skills team	Annual report providing the data required by employers, Regional Steering Group and Midlands Retrofit Skills team.	The risk is recreating work that has already been done. To mitigate this risk we will draw upon existing work from national efforts like the National Retrofit Hub. This activity may draw upon the designated events budget to support delivery.	Benefit of clarifying the local training landscape and skill requirement. Ability to monitor success of past initiatives.

The total cost of all these activities over a 3-4 year time scale is estimated at being **£876,102**. This figure is gained from the detailed estimations in the 3 local skills plans for the activities where there was no duplication.

APPENDIX C – Detail of Recommended Resource

The resource expected to be needed for the Midlands Retrofit skills team would be around three people for the duration of the service.

The resource would be expected to spend the following time on the current key activities:

Dedicated Midlands Retrofit Skills team

1) Coordinate Policy & support steering group and employer forum – 0.25 FTE
2) Engage current employers and individuals on skills – 0.5 FTE
3) Link organisations and resource – 0.5 FTE
4) Report on skills – 0.25 FTE
5) Advise on Funding Sources – 0.5 FTE
6) Undertake events and communication of opportunities – 0.5
7) Align and Coordinate training capability – 0.5 FTE

Team of 3 x FTE for 3 years

If it was agreed that additional support was needed for employers to manage their apprentices, funding was obtained and if the dedicated Midlands Retrofit Skills team was the best resource to deliver this activity, then we would see the following addition:

Apprenticeship support

2 x 50% FTE for 3 years

This would see the team consisting of 4 FTE over 5 individuals.

APPENDIX D – Aggregated Local Plan Actions

Key: ATOP – Alignment to other plans, EL – East Lindsey, BI – Birmingham, BO - Bolsover

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
EL1	Establishment of a Retrofit Steering Group where businesses, construction firms and education providers can work together to address local challenges around providing training opportunities.	BI2,	Q1 2024	A steering group to facilitate a coordinated approach to overcome the retrofit skills challenges	£10,000	Federation of Small Businesses / Local Authorities / Education Providers / SME sector reps / SELCAN	Number of partners engaged. Quarterly progress reports Clear action plan developed	No single organisation takes responsibility for moving things forward May not be localised enough to engage with SMEs on the ground	Bringing together coordinated action between different parties involved in retrofit supply chains Provides long term planning and solutions
BI2	Establish regional retrofit skills group to facilitate collaboration.	EL1, BO1, BO2, BO17	2024 - 28	Supply chain given the opportunity to feed in to planning and resourcing.	£25,000 p.a. x3	Advice and support from external retrofit skills consultants tbc	System collaboration and joined up delivery of retrofit skills development	Overlap with other regional groups sends a confused message. Mitigation is to combine regional retrofit and energy generation groups.	Efficient use of resources, reduced oversupply of course places, ease of planning for supply chain.
EL2	Dedicated Retrofit and Skills Officer based within the Local Authority to work alongside providers and SMEs to support training, accreditation, mentoring to deliver requirements and access procurement opportunities	BI1, BO1, BO2, BO17	2024 (min. three-year fixed term needed)	A dedicated resource to act as the link between different partners and to monitor progress	£135,000	Local Authorities	Number of SMEs engaged Number of SMEs gaining accreditation Number of SMEs bidding for procurement opportunities Number of local training courses provided	Fixed Term position so legacy needs to be ensured otherwise the benefits will not be realised Could lead to reliance on others Education providers and SMEs fail to engage	Trusted partner provides support to help SMEs with challenges and overcome areas they don't have the capacity to resource alone Dedicated resource to help match education providers with the industry and support a programme of tutoring

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BI1	Resourced and funded leadership from BCC.	EL2	2024 - 28	Co-ordinated policies which reassure the supply chain and training providers of future work.	£100,000 p.a. x3	BCC Retrofit Skills Programme Manager to establish and manage Steering Group	Birmingham Retrofit Skills Group established	Not supported by wider system change and long-term national policy and funding.	Efficient use of resources, reduced oversupply of course places, ease of planning for supply chain.
BO1	Pilot retrofit coordination resource	EL2, BI1, BO2	1 to 8 months (in pilot)	Report on skills coordination Establish local authority, employer and provider networks and forums	DC/RLB, Pilot service, network and Report: £22,623 Project partners engagement /workshop/events £20,000	All	Formal partners agreed	The risk is that this remains general engagement rather than focused on linking partners for direct improvement of uptake on provision. Suggest link to priority partner initiatives, like FE LSIF projects, to ensure learning outcomes are supported.	This phase will have the benefit of formalising and refining the insight from research-implementing the findings by piloting the coordination of main stakeholders.
BO2	Proposal for permanent retrofit skills hub	EL2, BI1, BO1, BO17	8 to 12 months (in pilot)	Proposal document, partner map and structure and agreed initial funding sources	BDC/RLB, Findings and service proposal/business case: £7,541	All	Proposal agreed and submitted	The risk is to repeat work from the research if the proposal development is not backed by momentum from partners to put the plan into practice.	We have found evidence of wide support for a hub, but further work is needed to explore what a permanent hub would look like, and we would benefit from developing a full business case with more detail.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BO17	Establish formal case for physical hub based on response to pilot outputs	EL2, BI1, BO1, BO2	8 to 12 months (in pilot) and onwards	Business case / full evidence for permanent service and physical hub	BDC/RLB and Partners £11,167	Bolsover, EMCCA, Project Partners	Business case prepared	Now that we have identified broad support for a physical retrofit skills hub, we need to build the business case in detail and see how this fits with the activities of the proposed hub. Physical hubs risk lack of engagement if they are not very carefully considered, this is why the project focuses on many other aspects, including youth engagement, to ensure uptake in the eventual centre is maximised towards workforce development targets and outcomes.	
EL3	Mentor programme matching businesses seeking to transition/enter the retrofit/ renewables market to more experience businesses that can guide them through process	BI4, BI7, BO10, BO12	2024	A successful programme of matching existing accredited businesses with those seeking to access the market	In kind support as part of Social Value aspect of retrofit schemes	Federation of Small Businesses / Local Authorities / Main Contractors	Number of mentor schemes established Number of SMEs gaining accreditation Number of SMEs contracted to deliver works	Disproportionate interest from mentees and mentors meaning matching is challenging	Links to Retrofit and Skills Officer Provides support to SMEs to broaden local supply chain with less risk of pitfalls
BI4	Facilitate retrofit networking events and collaboration between supply chain and educators.	EL3, BO10	2024 - 28	Improved understanding of needs of supply chain by training providers.	£24,000	Comms/ Marketing Agency tbc	Promotion campaign developed & Launched	Oversupply of training places if courses are not coordinated.	Increased variety of training offers – bolt on courses, apprenticeships, short courses etc.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BI7	Engage and support businesses entering retrofit – making use of Birmingham and Solihull Growth Hub, Business Growth WM and the UK Shared Prosperity Fund programmes.	EL3, BO12	2024 - 28	Supply chain, particularly micro and small enterprises, given support to expand and be more resilient.	Resource Cost as above (Row 1) PAS 2030 certification support @ £3,500 per company x 40 companies (£3,000 x 40 PAS 2030 certification plus £500 Business Support per company)		40 Birmingham businesses are supported to gain PAS2030 certification and work in retrofit		SME retrofit sector that is better able to meet demand and employ more staff.
BO10	Trade / contractor awareness pilot, focus on SME engagement and support	BI4, BI7, EL3	1 to 8 months (in pilot)	Pilot training sessions, feedback from participants	BDC/RLB, pilot service, SME component, organising sessions: £4,747 Amount leveraged from existing capacity or partners like EMCCA: TBC	Bolsover, RLB, EMCCA, Employer Network	Sessions delivered, number of people engaged	A risk is that other barriers to participation, like inconsistency of demand for retrofit, will make this effort less effective. Number of sessions depends upon funding that can be leveraged by partners like EMCCA and can draw also on designated events and workshop budget.	A key issue identified through our research is that contractors are not participating in retrofit or getting certifications, in some cases because they haven't been engaged. Therefore, efforts to raise awareness and also to improve quality by sharing crucial information about whole life retrofit processes has clear benefit.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BO12	Pilot formal employer forum	EL3, BI7	1 to 8 months (in pilot)	Formal employer structure	BDC/RLB, Pilot Employer Engagement £14,146 BDC/Partner governed Employer incentive funding for engagement / training: £15,000 East Midlands Chamber or TBC, additional employer engagement support £18,000 (may cover phase 2 also	Bolsover, RLB, EMCCA, Project Partners, East Midlands Chamber	# of engagements, workshops £ of contractors formally participating £ Funding provided for # of suppliers for training	We risk taking too much of employers' time if we do not understand employer incentives for participating and what they need to get out of collaboration.	This will have a significant benefit as our evidence shows that employer participation is the key element for skills hub success.
EL4	Development of specific Future Retrofit Skills careers programme for schools to educate students on the potential/scope for jobs in the sector	BI6, BI13, BO9	2024	A recognised retrofit skills programme that can be rolled out to schools to engage students as part of careers advice	In kind support as part of Social Value aspect of retrofit schemes	Education providers / Local authorities / Main contractors	Specific retrofit skills careers programme established Number of schools visited Number of students engaged with Number of students enrolling on relevant courses	Education providers don't engage due to pressures on existing curriculum	Pipeline of students keen to enrol in training related to retrofit and renewables work driving demand for courses Upskilling of local future workforce to retain talent in the local area and equip them to
BI6	Develop an engagement plan, an outreach plan and a careers pathway.	EL4, BO9	2024 – 28	TPs have an increased number of trainees. The pathway is clear for new entrants.	£2,000 per event £10,000 for retrofit careers microsite, career pathway and case studies	Resource to develop Birmingham Retrofit Careers Pathway (tbd)	3 x careers events held Birmingham Retrofit Careers Pathway developed Birmingham Retrofit Careers Pathway launched	Possible steep increase in demand which can't be met, frustrating potential trainees.	Trainees benefit from a clear route to qualification and progression, with potential employers identified.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BI13	Develop learning material and course content to ensure the best-in-class courses and qualifications.	EL4, BO9	2024 – 28	Wide variety of course types and content available to meet trainee and employer needs.				Lack of national frameworks for various elements (e.g. heat pumps) make content inconsistent and variable quality.	Standard courses run across Birmingham to ensure high quality regardless of provider.
BO9	Pre-16 and post-16-year old engagement pilot approach	BI6, BI13, EL4	1 to 8 months (in pilot)	Materials for engagement, Strategy for engagement, sessions and engagement events	BDC/RLB, pilot service and marketing copy: £11,692 BDC/RLB/TB C: £20,000 for BDC or TBC resource to enhance current pipeline of engagement of young people to Colleges and Retrofit career paths	Bolsover, RLB, EMCCA, Project Partners	Qty of marketing copy written, # of organisations shared with # of careers service / young people engaged Number of young people joining relevant course	This addresses a key challenge of getting younger people engaged in retrofit as a career.	This addresses a key challenge of getting younger people engaged in retrofit as a career.
EL5	Funding pot for SMEs to access for training provision which will also support associated costs incurred as well as the course costs themselves	BI14, BO3	2024	Support to encourage more local businesses to undertake required training in retrofit skills	£50k could be matched as CITB and contractors both have funds available	CITB / Local Authorities / FSB / Chamber of Commerce / Main contractors	Number of SMEs applying for funding Number of SMEs completing training courses	SMEs become reliant on external support rather than commitment their own funds to training and development	More skilled local supply chain in a position to bid for potential retrofit tender opportunities post 2025 (e.g. LARS)
BI14	Financially support individuals to complete skills training.	EL5, BO3	2024 – 28	Micro contractors able to access retrofit training as they are compensated for lost earning time.				SME may receive training but then not deliver retrofit work.	More businesses skilled and providing retrofit with the potential to expand.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BO3	Establish and deploy pilot flexible retrofit skills funding	EL5, BI14	8 to 12 months (in pilot)	Funding for places, certification, micro credentials or otherwise identified in phase 1; report on efficacy and impact	BDC/RLB/Partner governed Flexible partner retrofit skills funding: £40,000	Bolsover, EMCCA and project partners	Amount spent on certifications / training. Number of people trained funding raised for future training	The risk however is that flexible funding struggles to find uptake. We will reduce this risk by incorporating this in early engagement to identify routes for this funding from commencement.	Flexible funding would support increased uptake in priority partner regional retrofit training that is already underway. The benefit of making it flexible means it can benefit from the other pilot activities in the first 6 months of the project.
EL6	Consistency of accreditation schemes for ASHP/Solar PV/Renewables to provide more even competition within the market and assurances of quality	BO15	2025	A level marketplace for all those offering retrofit measures and consistent quality and approach for customers	-	Central Governme nt	Consistent guidance / requirements for accreditation for specific measures	Costs generally go up to deliver accredited works	More even playing field for local contractors who are not competing against unaccredited installers
BO15	Establish and pilot links to national retrofit stakeholders	EL6	1 to 8 months (in pilot)	Regional and local representative for regional and national initiatives, role defined and enacted on pilot basis	BDC/RLB pilot service £8,602	Bolsover, RLB, EMCCA, Project Partners, MCS Foundation and UKGBC, East Midlands Chamber	# of initiatives engaged with Amount of £ or benefit received from engagement	There is a risk of spending too much time in conversations with national partners if the engagement is not highly targeted towards supporting other project aims	Regional and local stakeholders are often not aware of, or have inadequate time to, engage in many regional and national green skills and retrofit workforce initiatives. Resource dedicated to feed into this would be very welcome.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
EL7	Marketing campaign to promote the real-life costs/benefits for Government-backed schemes such as Boiler Upgrade Scheme to encourage uptake and review of how wider support could be used to make it affordable to more residents	BI3, BO11	2024	Clear and coordinated messaging to promote the benefits of retrofit to the general public raising awareness and interest in installing measures particularly amongst the Able to Pay	£50k	Government / Local authorities / SELCAN	Number of South and East Lincolnshire applications to Government-backed schemes Number of residents engaged with % of applications resulting in measure installations	Continues to not attract support leading to negative perceptions/publicity for the scheme as a whole	More informed residents, better support to access available funding driving customers demand within local supply chain area
BI3	Consistent communications plan to raise awareness of retrofit and training available.	EL7, BO11	2024 - 28	Supply chain is better able to identify courses which match their needs. Increased publicity about retrofit increases demand.	£24,000	Comms/ Marketing Agency tbc	Ongoing, consistent communications drive demand for retrofit, creating the pipeline for businesses to invest and individuals to recognise retrofit as a career opportunity	Spikes in demand due to inconsistent funding which lead to difficulties in planning work and courses.	One clear message to general public with clear signposting to retrofit funding and next steps.
BO11	Establish proposal for permanent awareness and marketing function	EL7, EL9	8 to 12 months (in pilot)	Proposal for further/permanent activity, based on pilot outputs	BDC/RLB, Short Proposal: £1,500	Bolsover, RLB, EMCCA, Employer Network	Short Proposal / business case document	The only risk is that further proposal/business case development takes away funding for further certification delivery, but we feel the benefits outweigh this risk.	Developing the full proposal for a service built upon robust findings from the pilot will build a very strong foundation for a permanent marketing/awareness raising activity function that engages the highest number of people more effectively.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
EL8	Incentive scheme to support employers to take on apprentices beyond the apprenticeship period with salary support.	BI9	2025	Apprentices given the opportunity to move into employment once their placement end providing real life opportunities to develop retrofit skills	-	Central Governme nt	Number of apprentices offered positions beyond their apprenticeship period Number of employers applying to incentive scheme	Significant funding commitment potentially May still result in apprentices choosing not to pursue career path Could flood the market	Provides some assurance for apprentices that there will be work beyond the training and a salary commitment Gives assurance to businesses that the time they have invested in training won't be in vain and will enable them to expand their operation
BI9	Work with existing retrofit businesses to encourage them to take on apprentices, to meet their Social Value obligations, and to work with smaller retrofit contractors.	EL8	2024 – 28	Support for Tier 1 contractors with public sector retrofit contracts enables them to take on more trainees and subcontract to SME contractors.	£15,000 for marketing campaign Course costs – 50 learners per year at an average match funded cost of £500 per learner. Funding to come from private sector employers.		Provide funded training and support to encourage self-employed and micro-businesses to enter the retrofit sector		Tier 1 contractors able to deliver on large scale retrofit projects.
EL9	Incentive scheme to encourage existing workforce to transition e.g. gas engineers to air source heat pump engineers	BO11	2024	To build on the existing knowledge and expertise to ensure a strong network of experienced installers of new technologies	£50k / potential for in-kind match through social value of existing retrofit schemes	Local Authorities / FSB / CITB / Chamber of Commerce / Main contractors	Number of applications to scheme Number of qualified installers undertaking training in new technologies	Existing businesses won't be interested in the incentives because existing customer base is secure Doesn't address disinterest or lack of knowledge in green skills and renewables	Removes some of the risk for bus's who are already busy with traditional gas servicing. Ensures that knowledge, motivated individuals are being trained to fill future skills gaps while younger workforce gains relevant experience

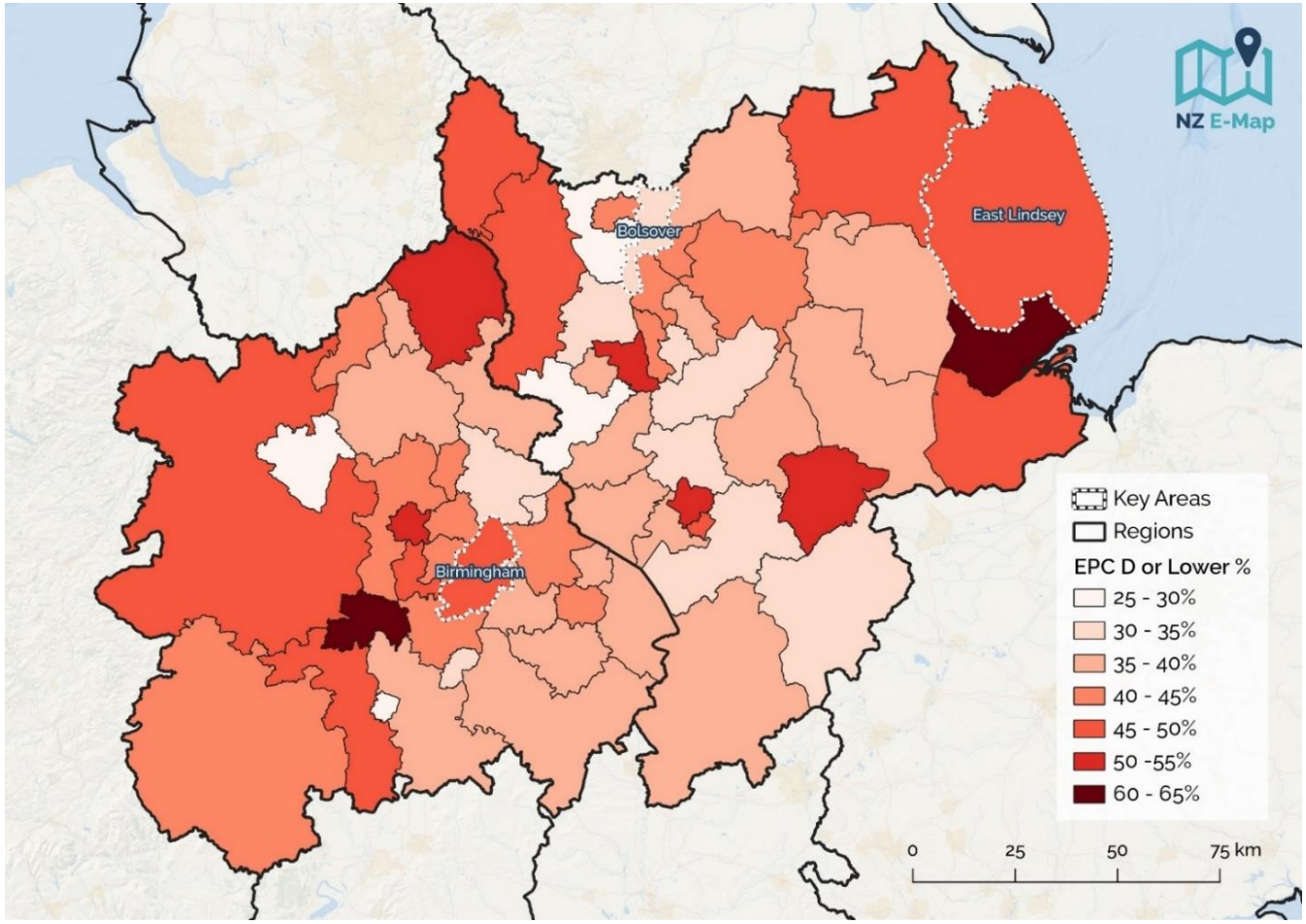
REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BI5	Establish network of training providers.		2024 – 28	Improved co-ordination between training providers.					The right number of the right type of courses provided to ensure all demand for training is met.
BI8	Facilitate "Meet the buyer" events to connect SMEs with larger contractors.	BO13	2024 - 28	Broader range of SMEs for Tier 1 contractors, leading to fewer delays in retrofit projects and increased local employment in retrofit.	£15,000 (£2,500 per event x 6 events)		6 "Meet the Buyers" events held across three years	Competition drives prices too low and SMEs exit the market.	Sufficient contractors in the market to deliver large scale retrofit projects.
BO13	Supply chain mapping and coordination	BI8	1 to 8 months (in pilot)	Supply chain coordination role defined	BDC/RLB Supply Chain activities £4,715	EMCCA RLB and Bolsover, MCS Foundation and UKGBC, East Midlands Chamber	# of new contractors identified £ of additional contractors engaged as result of supply chain coordination	These risks alienating main contractors if efforts to engage supply chains are not done with some involvement of them.	This will build on national efforts to combine employer engagement with retrofit supply chain coordination currently led by organisations including the MCS Foundation and the UKGBC. Having a local approach to build on efforts will increase access to retrofit supply chain info for partners like local authorities.
BI10	Develop a Retrofit One Stop Shop where SMEs and individuals can learn about available projects.	BO14	2024 – 28	Clear, up to date information available which enables SMEs to plan their workforce needs.	£5,000 (£500 per event x 10 events)		10 retrofit networking events held across three years	Duplication with FindItInBirmingham – mitigation is to link the sites.	SMEs benefit from accurate information to enable them to plan.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BO14	Establish permanent employer forum and governance linked to hub	BI10	FY '26 (outside pilot)	TBC, based on pilot findings	TBC	TBC	TBC	TBC	TBC
BI11	Maintain critical data to inform future skills needs. HA and Private landlord modelling	BO6, BO8	2024 - 28	As the market develops, the skills needs will change, and this work will keep it up to date.	HAs - £7,500 per annum x 3 years Private LL- £2,000 per annum x 3 years		Comprehensive and up to date information about retrofit demand is maintained and translated into future workforce requirements		The regional skills group will be able to plan incentives and funding based on this data.
BO6	Pilot intelligence and demand report	BI11	1 to 8 months (in pilot)	Intelligence report Response report from partners assessing information value	BDC/RLB, Pilot service and reports, £14,242 East Midlands Chamber or TBC, additional funding for demand analysis: £8,000	Bolsover, RLB, EMCCA, Employer Network	Number of activities/placements /trainings instigated by information sharing	The risk is recreating work that has already been done. To mitigate we will draw upon existing work from national efforts like the National Retrofit Hub. This activity may draw upon the designated events budget to support delivery.	This has a clear benefit of clarifying the local training landscape
BO8	Bi-annual skills intelligence reports and engagement model	BI11	FY 25/26 (outside pilot)	TBC, based on pilot findings	TBC	TBC	TBC, based on pilot findings	The risk is that despite engagement, people will not choose to follow this career path. We can work with our partners to refine our approach and address this risk.	This addresses a key challenge of getting younger people engaged in retrofit as a career.
BI12	Launch a Retrofit Training Network of Birmingham-based training providers creating collaboration and co-operation.	BO5	2024 – 28	Co-ordination of courses will ensure that courses that are run are full.	£25,000 per annum x 3 years		Training providers in Birmingham are able to deliver required retrofit qualifications	Colleges may compete rather than collaborate. Potentially complex to organise.	Resources will be targeted to prevent inefficiencies. Clear information to potential trainees.

REF	ACTION	ATOP	TIME	OUTPUT	COST	WHO	KPIs	RISKS	BENEFITS
BO5	Establish skills focussed KTN with NTU and Derby U	BI12	FY '26 (outside pilot)	Regional retrofit skills KTN with funding	KTN Network and private funding	Universities and Bolsover lead with employer s	Funding achieved Formal partners agreed	The risk arises if this KTN is not adequately related to workforce development issues. We have reduced this risk by considering this outside the pilot period.	This is one of several opportunities to leverage funding sources and capacity from key project partners to enhance the value of the hub activity
BI15	Establish a regional tutor bank to address tutor shortages working across colleges in the region.		2024 – 28	Skilled, experienced, qualified tutors available to run courses wherever there is demand.	3 x £10,000 (Year 1 only) 3 x £45,000 (Year 1 - 3)		There is a group of expert tutors able to delivery relevant retrofit qualifications across the Birmingham area	Too much work for tutors causing timetable clashes. Delay in training potential tutors. Tutors leave for full time teaching jobs.	Colleges able to run smaller number of courses as the tutor can be brought in and already has teaching qualification.
BO4	Post-pilot Retrofit Skills Coordination	EL2, BI1, BO1, BO2	FY '26 (outside pilot)	TBC, based on pilot findings	TBC	Bolsover, EMCCA, Employer Network	TBC	TBC	TBC
BO7	Map of local and national provision against NVQ level, Survey supply chain		1 to 8 months (in pilot)	Local Provision Mapping Demand survey/ engagement	BDC/RLB: £4,747	Bolsover, RLB, EMCCA, project partners	Number of activities/placements /trainings instigated by information sharing	Risk of recreating work that has already been done. To mitigate we will draw upon existing work from national efforts like the National Retrofit Hub. This activity may draw upon the designated events budget to support.	This has a clear benefit of clarifying the local training landscape.
BO16	Funding achievement and funding application support		8 to 12 months (in pilot)	Funding applications Engagement to identify funding	BDC/RLB funding support pilot £8,602	Bolsover, RLB, EMCCA, Project Partners	# Funding applications supported Funding achieved or agreed # Funding or collaboration opportunities identified	Risk of expanding hub activity beyond remit if funding opportunities are not carefully selected.	Funding application support would provide a crucial benefit to regional project partners who struggle with capacity to identify and obtain funding for retrofit workforce development.

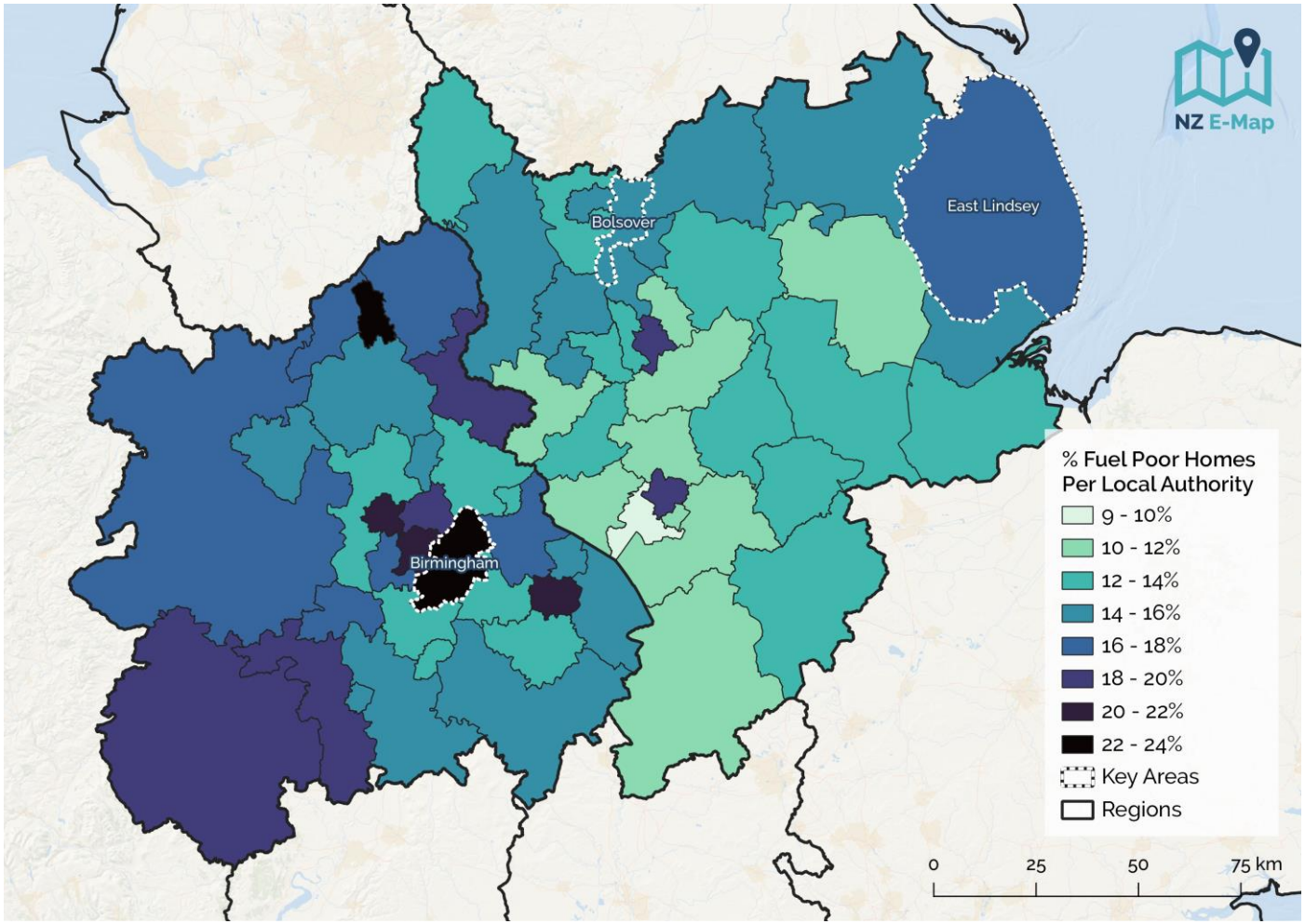
APPENDIX E – Midlands Area Maps

Midlands Area Energy Performance Certificate Data



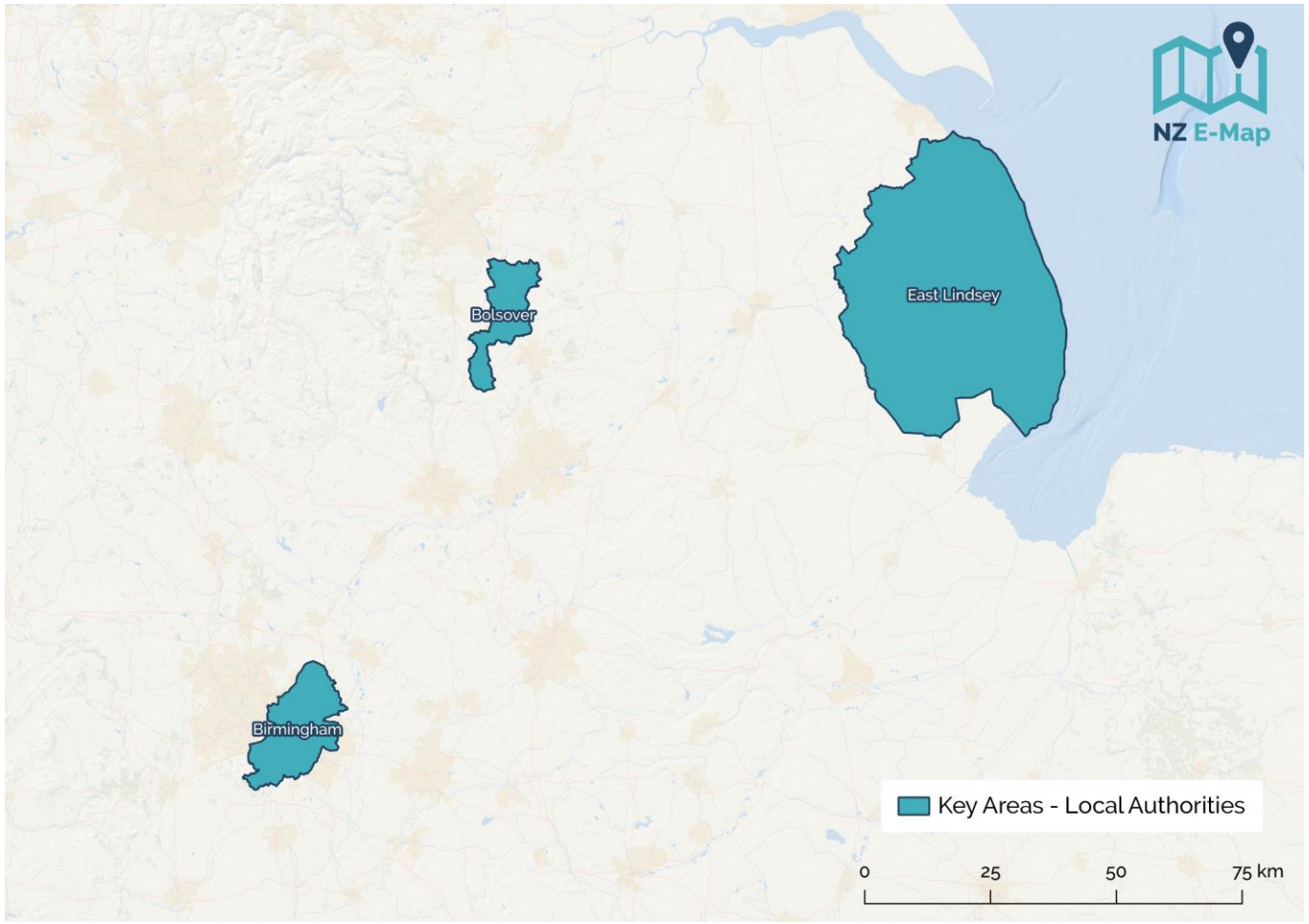
Data From [Energy Performance of Buildings Data England and Wales (opendatacommunities.org)]

Midlands Area Fuel Poverty Data

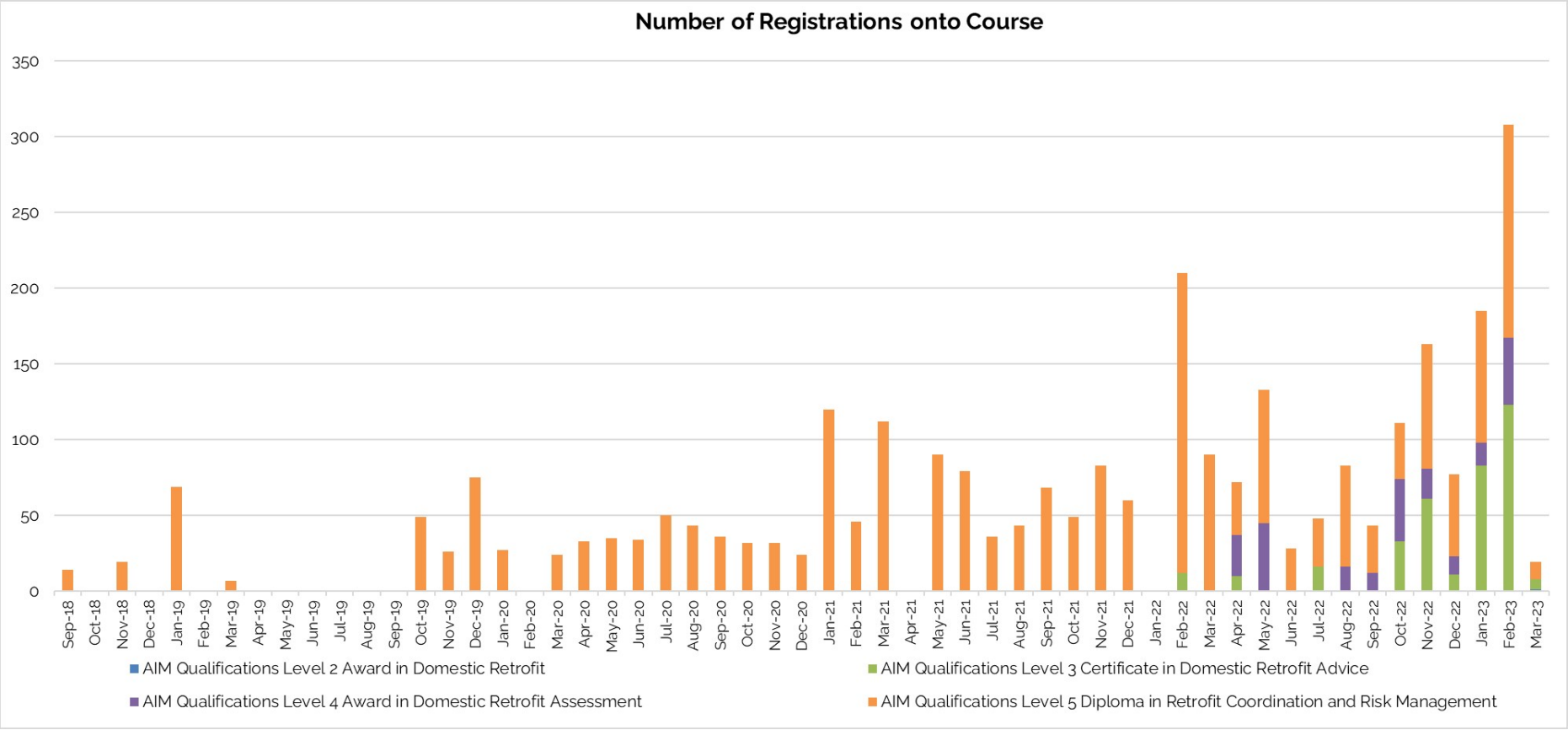


Data From [Fuel poverty statistics - GOV.UK (www.gov.uk)]

3 Local Plan Areas and their Geographical Distribution



APPENDIX F – Retrofit Role Qualification Data



Data from AIM Qualifications

APPENDIX F – Stakeholder Engagement

Opergy Engagements

Local Authorities

Associate - Sustainability, Net Zero and ESG, Rider Levett Bucknall (Author team for Bolsover District Council Plan)

Director of Economic Development, Bolsover District Council

COO, Retrofit Academy CIC (Author team for Birmingham City Council Plan)

Principle Finance and Bids Officer, Birmingham City Council

Senior Delivery Manager- Higher Level Skills, West Midlands Combined Authority

Group Manager - Climate Change and Environment, South & East Lincolnshire Councils Partnership / East Lindsey District Council

Installers / Employers / Trade Associations

Head of Training, Persimmon Homes PLC

Chief Executive, Property Care Association

Group Chief Executive Officer, The Installation Assurance Authority

Head of Quality and Compliance, National Federation of Roofing Contractors

Technical SHE Officer, National Federation of Roofing Contractors

Research Manager, CITB

Customer Engagement Manager – East Midlands, CITB

Education / Training Providers

Training Academy Manager, British Gypsum, East Leake

Group Director for Business Transformation and Growth, AIM Awards

Owner, Keith Horkan Training Services

CEO, BPEC

MCMI, Training specialist, assessor and facilitator, Jo Bowditch Training Services, Market Harborough

National Specialists Accreditation Centre Manager, CITB

Housing Associations

Assistant Director and Head of Planned Investment, Nottingham Community Housing Association

Operations Manager, Nottingham Community Housing Association

Operations Director, Flagship Housing Association

CEO, St. Peters Housing Association

Aggregated Stakeholder Engagement List

Stakeholder Engagement Type	Participants	Birmingham City Council	Bolsover District Council	East Lindsey District Council	Opergy
Workshop	Contractors	4 individuals, 4 Organisations	9 individuals, 4 Organisations		
	Education/Training Providers	4 individuals, 2 Organisations	26 individuals, 9 Organisations		
	Delivery Pipeline Leads/Local Authorities	3 individuals, 1 Organisation	17 individuals, 13 Organisations		
	Certification bodies, third sector, or other	6 individuals, 6 Organisations	17 individuals, 12 Organisations		
	Total	17 individuals, 13 Organisations	69 individuals, 38 Organisations	N/A	
Interview	Contractors		14 individuals, 8 Organisations		
	Education/Training Providers		8 individuals, 4 Organisations		4 individuals, 4 Organisations

Stakeholder Engagement Type	Participants	Birmingham City Council	Bolsover District Council	East Lindsey District Council	Opergy
	Delivery Pipeline Leads/Local Authorities		1 individuals, 1 Organisations		8 individuals, 6 Organisations
	Certification bodies, third sector, or other		8 individuals, 7 Organisations		2 individuals, 2 Organisations
	Associations, Federations, Membership bodies				6 individuals, 4 Organisations
	Report Writers				2 individuals, 2 Organisations
	Total	N/A	31 individuals, 20 Organisations	N/A	22 individuals, 18 Organisations
Survey	Contractors				1 individuals, 1 Organisations
	Education/Training Providers				1 individuals, 1 Organisations

Stakeholder Engagement Type	Participants	Birmingham City Council	Bolsover District Council	East Lindsey District Council	Opergy
	Delivery Pipeline Leads/Local Authorities				3 individuals, 3 Organisations
	Certification bodies, third sector, or other				3 individuals, 2 Organisations
	Total	96 (11 responses)	N/A	N/A	8 individuals, 7 Organisations
Workshop, Interview and Survey	Contractors			7 Organisations	
	Education/Training Providers			5 Organisations	
	Delivery Pipeline Leads/Local Authorities			5 Organisations	
	Certification bodies, third sector, or other			5 Organisations	
	Total			22 Organisations	

	Participants	Birmingham City Council	Bolsover District Council	East Lindsey District Council	Opergy
Total Stakeholder Engagement		**109 Local Businesses**	**100 Individuals,** **58 Organisations**	**22 Organisations**	**23 individuals,** **19 Organisations**

Between the three Local Retrofit Skills Plans and Opergy's additional stakeholder engagement there is a total of:

- 254 Individuals engaged
- 208 Organisations engaged

This would feel like a substantial number of individuals and organisations engaged and therefore the report should be seen as providing a valid viewpoint of the wider stakeholder population across the Midlands.

APPENDIX H – Literature Review

Birmingham Local Skills Plan

Overarching Objectives

1) Strong local leadership.
2) Improve retrofit understanding.
3) Support businesses entering retrofit sector.
4) Encourage more people to choose retrofit as career.
5) Help businesses find contracts/jobs in sector.
6) Expand training provision.
7) All retrofitted properties EPC rating C+ by 2028.
8) 30,000 homes retrofitted in next five years.

Objective Enablers

1) Strong, clear national policies.
2) Long-term plan for retrofitting all homes, backed by government schemes.
3) Reduce red tape for businesses.
4) Investment in and interest amongst FE and HE sector in Birmingham.

Plan (detailed) – Capacity Building

- Develop careers pathway.
- Meet the buyer event - connect SMEs & larger contractors.
- Retrofit One Stop Shop - SMEs/individuals can learn about available projects.
- Encourage apprenticeship uptake.

Plan (detailed) – Skills & Training

- Launch Retrofit Training Network of Birmingham-based training providers (hereafter TPs).
- Learning material/course content.
- Financial support for learners completing training.
- Regional tutor bank, addressing shortages in colleges.
- Provide easier access to training and skills.

Plan (detailed) – Communication & Collaboration

- Create regional retrofit skills group.
- Comms plan to raise retrofit awareness and collaboration.
- Network events between educators and the supply chain.

Current Workforce*

- Retrofit Assessors: 63
- Retrofit Coordinators: 2
- Individuals
- Retrofit Assessor/Coordinator: 15

- External Wall Insulators: 26
- Internal Wall Insulators: 22
- Cavity Wall Insulators: 20
- Loft Insulators: 365
- Underfloor Insulators: 18
- Window & Door Fitters: 12
- Businesses
- ASHP Installers: 18
- Ground/Water Source Heat Pump Installers: 7
- Solar Thermal Installers: 2
- Solar PV Installers: 17
- Battery Storage Installers: 8

*Estimates based on source analysis of Trustmark registered businesses

Gaps/Relevant Information

- Current: 1,000 – 1,500 homes retrofitted yearly
- Goal: 9,000

Skills Demands

- Low-carbon electricity: 718 (2030), 1,350 (2050)
- Low-carbon heating: 2,890 (2030), 4,350 (2050)
- Energy efficiency: 2,645 (2030), 2,789 (2050)

Highest Training Demands

- External Wall Insulators: 416
- Retrofit Coordinators: 119
- Retrofit Assessors: 105
- Retrofit Advisors: 50
- Internal Wall Insulation Installers: 86
- Retrofit Designers: 73
- Solar PV Installers: 48
- Energy Efficient Window/Door Fitters: 45

Estimated that 25% of vacancies in area due to **skill shortages** (22% nationally). Also, employer feedback particularly mentions high demand for **skilled tradespersons and construction professionals.**

Issues/Challenges

- Gas is still main source of fuel.
- Only short-term funding is available – due in large part to market uncertainty.
- Red tape linked with retrofitting/entering the market.
- Lack of public demand/understanding of what retrofit is, how it works and the wider benefits.
- Not perceived as a career option.
- Not enough tutors.
- Lack of standards for qualifications e.g. no nationally recognised Solar PV or ASHP qualifications. Hard to promote alongside other regulated and recognised qualifications.
- Educational institutions reported difficulties in attracting demand from retrofit and 'green skills' courses.

Additional information

- Homes account for 1/3 of carbon emissions in city.
- 23.2% of homes in fuel poverty in BCC, 13.4% England.
- 457,000 households, City Council stock is 60,000.
- 100 local businesses surveyed.
- 56% homes have no wall insulation, 66% no loft insulation, 14% no double glazing.
- According to WMCA, "low carbo and associated environmental goods" the fastest growing sector in West Midlands, 21,000 new jobs by 2026.

Bolsover Local Skills Plan

Overarching Phases

Phase 1: Propose structure for permanent hub, establish what stakeholders to be involved in delivery. Early test outputs to be reviewed by partners (months 1 to 6).

Phase 2: take forward delivery of additional pilot funded outputs, prepare findings and resource permanent agreed activities (months 6 to 12).

Phases 3 - 4: establish permanently funded hub activities as devolved budget powers of EMCCA are finalised (finished 2025/6, Phase 4 2026 onwards).

Outputs

1. **Resourced collaboration** – fund 'go-between' for employers, TPs, delivery schemes, LAs, certification bodies. This would help coordinate stakeholder activities.
2. **Regional intelligence & demand** – information sharing between stakeholders, including info on courses, demand insights, etc.
3. **Marketing and pre/post 16 engagement** – raise awareness around training, career pathways, hold workshops, give engagement presentations and create relevant material for careers advisors.
4. Employment involvement/supply chain coordination & development – formal engagement with employers.

5. **Links to national picture** – increase awareness of national retrofit picture/situation, the funding available and other national activities.
6. **Physical retrofit skills hub** – significant support for physical space for new courses/training.

Current Workforce

- Sector workforce based on SIC Code groups, using ONS Census Data 2021.
- Estimated 5,111 jobs 'potentially' in retrofit. Actual figure likely between 50 and 150.
- Only three retrofit assessors/coordinators in Bolsover.

Gaps/Relevant Information

- Question put to stakeholders at workshop: are retrofit skills fit for purpose/delivering retrofit skills needs? 93.75% replied "no>.
- To retrofit entire housing stock in Bolsover, 1,410 retrofits required every year, by between 170 and 201 workers per year until 2050.

Issues/Challenges

The following challenges reflect interviews with Bolsover District's Housing Asset Management Officer and Manging Surveyor

- **Supply chain visibility** – working with a main contractors, who sub-contracted all PAS2035 roles increased delivery time but reduce visibility of workforce issues.
- **Lack of workforce information** – for example, there is uncertainty around how much of workforce is captured by surrounding regions.
- **Short timeframe for delivery against funding period** – i.e. strict government funding, coordination, long pre-construction phase, competing activities of other authorities. This has led to workforce shortages and delays.
- Funding has been positive, helping workforce growth. However, short funding timelines e.g. Local Authority Delivery, have led to discouragement of small contractors.

The following challenges were identified through stakeholder engagement, pertaining to workforce and skills challenges.

- Training shortages/career pathways.
- Lack of awareness.
- Education salaries lower than high paying retrofit jobs hence lack of trainers.
- Lack of awareness i.e. pay around job market – considered unattractive.
- Low investment in apprenticeships.
- Shrinking local workforce.

Additional Info

- Most of those engaged indicated inconsistencies in course quality and availability e.g. some delivered online, some in-person, some pre-recorded content, some hands-on. Perceived that this led to different skills levels.
- Another overarching challenge identified throughout was a persistent disconnect between retrofit stakeholders – argued there needs to be more collaboration between TPs, contractors, local authorities. However, it was acknowledged that collaboration is resource intensive.
- Following SIC Codes linked with built environment: 35, 41 – 3, 71 and 81.
- 35,237 homes estimated in district.

East Lindsey Local Skills Plan

- Establish Retrofit Steering Group – bringing construction firms, businesses and education providers together to address local challenges and provide training (Timescale: Q1 2024)).
- A dedicated Retrofit and Skills Officer in LA, working with SMEs, education providers, supporting training, procurement, accreditations etc (Timescale: 2024 – 27)
- New mentor programme (Timescale 2024).
- Develop a Future Retrofit Skills Programme for schools, educating students on career pathways (Timescale: 2024).
- Funding pot for SME training provision access, including course costs (Timescale 2024)
- More consistent accreditation for ASHPs/Solar PV/Renewables with aim of improved market/quality evenness/balance (Timescale: 2025)
- Marketing campaign, promoting cost/benefits for Gov backed schemes (Timescale: 2024)
- Incentives scheme supporting employers taking apprentices beyond apprenticeship i.e. salary support (Timescale: 2025).
- Incentives scheme encouraging workforce transition e.g. gas engineers to ASHP engineers (Timescale 2024).

The skills plan included a wide range of potential project partners including, but not limited to: Federation of Small Businesses, Local Authorities; SME Sector Representatives, Education Providers; contractors; CITB; Government; SELCAN, etc.

Current workforce**

- Estimated 2,500 jobs in construction in East Lindsey.

- According to Microgeneration Certification Scheme, there are an estimated 20 businesses registered for ASHP and Solar PV installations in South and East Lincolnshire.

**Relatively little detail provided in plan on current workforce and gaps/pinch points identified.

Issues/Challenges

Supply Chain Challenges

- Traditionally, councils have used main contractors for framework to build sub-contract base locally – limited success as there are few PAS-accredited installers.
- Small contractors feel cost in getting accreditation outweighs insecure work.

- Lack of interest/demand from private market and students. Most hadn't even heard of term 'retrofit.'
- Training challenge – relies on travel, costs, difficult since East Lindsey is classed as semi-rural. Cost of doing business is therefore higher.
- Accreditation is not standardised, meaning costs are inconsistent.
- Lack of skilled installers, especially for ASHPs.
- Tendering for council work daunting for SMEs (policies/procedures not always in place).
- Overall market needs to be broader, little competition, more people needed, lack of skilled/qualified installers have led to high costs.
- 'The Feed in Tariff' – excellent at stimulating Solar PV market in terms of knowledge for customers – could be expanded for other retrofit types?
- Large skills gap in qualified electricians.

Education Provision Challenges

- Lack of trained staff.
- Learning is lower than day rate of many contractors.
- Employers are not taking on enough apprentices, especially because of transport barrier in semi-rural East Lindsey.
- Tech changes mean keeping courses up to date is challenging, especially for smaller TPs.
- Is a perception that green business is a trend meaning the market is less significant in the long-term.
- There is a lack of knowledge and understanding on career paths offered by renewables.
- Providers want more space to showcase the career pathways on offer.
- Regulation of accreditation – substandard work has perceivably damaged reputation of retrofit. One housing association reported years ago, ASHP fitting without fixing fabric issues first. Customers more reluctant to seek ASHPs.
- Providers feedback that having the space to advertise/showcase renewables market/new technologies would be useful in broadening understanding of retrofit sector.

Additional info

- South and East Lincolnshire Councils Partnership (SELCP) has built in-house energy advice and retrofit team, estimating it would cost £10 million to upgrade energy efficiency of 1,300+ properties.
- Fuel poverty is significantly higher than 13% national average (percentage not provided).
- 28% of East Lindsey have insufficient wall insulation, 26.3% roof insulation.
- SELCP undertook Meet the Buyer event in each district however, despite marketing strategy, it did not generate a large breadth of interest.
- Are already courses in local area that do feature Solar PV, wind turbine, GSHP, etc. The TEC partnership has also attracted funding for the purchase of an ASHP to demonstrate to students.
- Boston College – currently establishing ASHP centre for training.
- Under the Home Upgrade Grant Phase 1 (HUG 1), 535 retrofit measures across 218 properties (£25,000 average grant per property, depending on EPC rating), were installed. Nearly one-third were Solar PV, over half were Solar PV and/or ventilation improvements.

- Conclusion – retrofit demand being driven largely by local authorities and housing associations.

Green Homes Grant Skills Training Competition (October 2021) Evaluation

Plans

- Green Homes Grant Voucher Scheme funded 2/3 of home improvement upgrades (under £5K in England).
- Stakeholders were invited to submit proposals for delivering skills and training – was either free or heavily subsidised.
- Courses had to align with five work packages.
- Emphasis on upskilling SMEs (most learners were from SMEs).
- Learners were recruited by:
    - Provider Website (most heard about training by website)
    - Free webinars
    - Face-to-face meetings/stalls/exhibitions (second most heard about)
    - Social media campaigns
    - Articles/adverts in industry publications/promotions

Successes

- As most providers specialised in one field, course selection was clear and simple.
- 92% learners 'slightly' or 'very' satisfied with course.
- 98% said they'd use provider again.
- 93% said course was value for money.
- 80% of interviewees said training 'completely' met their needs.
- ECTA follow-up survey -40% had installed heat pumps, solar thermal since training. 60% expected to be installed in following 12 months.
- In a few cases, some providers found that majority of previously unemployed students were employed following course completion.
- Providers unanimously praised MNZH support/flexibility/payment processing/reporting challenges.

Issues/Challenges

- Many providers found it hard to articulate benefits e.g. how is a business/TP meant to fully define what 'societal benefit' is?
- Covid-19 pandemic.
- Industry uncertainty i.e. government misdirection.
- Compressed timescales e.g. delay in notifying successes of application, hindering recruitment.
- Pricing – some providers offering free courses, others subsidised. Candidates feedback saying they could undertake training elsewhere, cheaper.
- Withdrawal of Voucher Scheme meant learners no longer felt need to continue course.
- Marketing rules.

- Greater pressures on SMEs (i.e. cost, intensive cost).
- Poor commitment from learners, many felt ill-equipped to use skills post-course.

Additional Info

- 18 TPs awarded funding.
- Was a range of learning formats/qualifications/durations.
- Many TPs agree they wouldn't have provided courses without scheme.
- All providers agreed the free/heavily subsidised courses was most effective encouragement for learners. Between 75 and 95% of learners wouldn't have enrolled otherwise (according to two providers).
- This view matched opinion by interviewed learners who claimed subsidised nature of courses was primary reason for uptake.

Additional Info – Suggestions by Providers post-delivery

- All providers would welcome new competition including work package on Electric Vehicles (EVs).
- Longer delivery period.
- More structures, less open-ended application, standardising submissions and therefore more even playing field first time.
- Better/quicker communication during competition – getting responses from government difficult.
- Funding to be provided upfront, especially for SMEs.
- Less reporting/monitoring – very time and resource consuming,
- Government could centralise promotion/marketing of course.
- Greater emphasis on post-course support/education in future hypothetical competition.

Additional Info – Enhancing Supply Chain Capacity and Capability

- Increased regulatory focus on new build market, less on homeowners.
- Split MCS into 'design' and 'implementation', introduce compliance too. Develop expertise on specialisms.
- More SME inclusion.
- Integration of retrofit skills in education system.

Home Decarbonisation Skills Training Competition Phase 1

Plans

Competition spread across 3 x Work Packages

Work Package 1: Retrofit assessor/coordinator (18% of learners,

nationally)

Work Package 2: Insulation (21% of learners, nationally)

Work Package 3: Heat Pumps (62% of learners, nationally)

Successes

- Significant interest in building sector to gain retrofit skills.
- Some providers have already reported long waiting lists.

Issues/Challenges

- Time of year (so-called Heating Season) – training should be run at a time of year less profitable for businesses.
- Many providers needed extra time (month minimum delivery timeframe suggested more than once).
- Confusion at project commencement of scheme with red tape. Too much paperwork e.g. weekly/bi-weekly reports. Were also reports of funding delays.
- DESNZ found a number of late submissions and encountered unresponsiveness at times.

EPC Data

Below is EPC Data queried from the Department of Levelling Up, Housing & Communities website.

Birmingham	Birmingham %	Bolsover	Bolsover %	East Lindsey	East Lindsey %	Total%
11,414	N/A	1,637	N/A	2,470	N/A	N/A
9,426	-17%	1,446	-12%	2,147	-13%	-16%
7,481	-21%	1,479	2%	1,862	-13%	-17%
7,478	0%	1,742	18%	2,098	13%	5%
9,561	28%	1,997	15%	2,570	22%	25%
11,163	17%	2,163	8%	2,808	9%	14%
10,693	-4%	2,356	9%	3,456	23%	2%
14,118	32%	2,499	6%	4,504	30%	28%
17,400	23%	2,733	9%	4,896	9%	19%
17,554	1%	1,453	-47%	2,452	-50%	-14%

Table 1: Growth in energy efficient housing in three local authorities

EPC Rating	Birmingham	Birmingham EPC Below C%	Bolsover	Bolsover EPC Below C%	East Lindsey EPC C	East Lindsey EPC C %	Total Below EPC C	Total Below EPC C %
D	193,040	41%	12,050	36%	25,931	37%	231,021	40%
E	93,248	20%	5,453	16%	14,616	21%	113,317	20%
F	18,960	4%	1,377	4%	6,376	9%	26,713	5%
G	5,910	1%	390	1%	2,165	3%	8,465	1%
Below C	311,158	66%	19,270	57%	49,088	69%	379,516	66%
All EPCs	471,784	N/A	33,543	N/A	70,889	N/A	N/A	576,216

Table 2: Number and proportion of homes in three local authorities with EPC ratings below C

Census 2021

SIC Group***	Birmingham	Bolsover	East Lindsey	East Midlands	West Midlands	Midlands
35	2,158	205	253	17,386	17,258	37,260
41 - 43	28,968	3,712	4,892	200,927	222,058	460,557
71	4,812	348	482	21,103	32,881	65,626
81	9,740	849	1,646	51,761	62,059	126,055
Total	45,678	5,114	7,273	297,177	334,256	689,498

Table 3: using the methodology in Bolsover and East Midlands Green Skills Retrofit Skills Analysis and Report (2024) and Census Data, above is estimate of jobs in SIC groups most relevant to retrofit. In reality, jobs directly linked to retrofit are significantly lower.

***SIC Group Breakdown
35: Electricity, gas, steam and air conditioning supply.
41: Construction of buildings.
42: Civil engineering.
43: Specialised construction activities.
71: Architectural and engineering activities; technical testing and analysis.
81: Services to buildings and landscape activities.

UK Business Counts (Nomis)

SIC Group***	Birmingham	Bolsover	East Lindsey	East Midlands	West Midlands	Midlands
35	35	0	10	245	250	540
41 – 4	3,845	375	720	26,120	28,640	59,700
71	760	50	120	5,190	5,960	12,080
81	570	35	115	3,380	3,985	8,085
Total	5,210	460	965	34,935	38,835	80,405

Table 4: using the same SIC groups used in Table 3, research was conducted into the number of potentially retrofit-relevant businesses in the three local authorities in question. Similarly, the actual business count is very likely to be significantly lower than the values above indicate.

Historic England

This data covers the requirement for domestic retrofit for per 1919 houses only.

- **East Midlands –** estimated average of 9,000 FTEs per annum required for retrofitting region's historic buildings, including 1,000 electricians and 1,000 plumbers, heating and ventilation installers and repairers. Direct economic output estimated at £1,171,600,000.

- **West Midlands** – estimated average of 7,000 FTEs per annum required for retrofitting region's historic buildings, including 1,000 electricians and 1,000 plumbers, heating and ventilation installers and repairers. Direct economic output estimated at £978,100,000.

Distribution Future Energy Scenarios 2020

- **East Midlands (as of 2021)** – 92,000 grid connected, domestic scale solar PV installations, 18,000 heat pumps (14,000 properties heated by Air Source Heat Pumps, 4,000 Ground Source Heat Pumps).
- **West Midlands (as of 2020)** – 70,000 domestic solar PV installations, 7,500 domestic heat pumps (not broken down by type).

Whole House Retrofit and Social Housing Decarbonisation Fund Demonstrator

- Perceived that Whole House Retrofit (WHR) and Social Housing Decarbonisation Fund Demonstrator (SHDF) schemes did contribute to improving job market and supply chain growth.
- Companies interviewed who benefitted from the fund said investment (money and resource) in retrofit was not very profitable for them.
- In project team interviews, there was a shared view that participation in programme did, overall, help to facilitate skill development.
- Company House research (in report) showed that upskilling companies in retrofit skills has not had a significant impact on number of employees.
- However, there was a shared perception that the retrofit market looks strong for the future.
- Despite programme upskilling measures, there is also perception that the measures will not be able to support the upscaling of jobs or generating a sustained employment pipeline.
- Also, a consensus that biggest incentive for entering retrofit market is knowing there a government funded pipeline of retrofit projects/funding exists.

East Midlands Chamber Local Skills Improvement Plan

- There are 'significant opportunities' to retrofit older, residential buildings.
- Major challenge to this is that the current frameworks in place are such that retrofit projects are often being delivered by businesses that are not sourcing candidates locally, with limited ability to meet regional labour market capacity and demand.

Open Source Gov Data – EPC and Fuel Poverty Data

- Five local authority districts across the Midlands are estimated to have fuel poverty levels of 20% or above: Birmingham; Coventry; Sandwell; Stoke-on-Trend and Wolverhampton.

Trustmark

- Below is a high-level overview of the findings of short study into the number of companies that offer retrofit services.
- It is likely that across the Midlands, there are roughly only forty companies that offer retrofit services as the majority are involved in the installation of a range of different retrofit technologies.
- As this became clear early into the study, it was agreed that only a sample of retrofit services be examined. They are as follows: Air Source Heat Pumps (ASHPs); Solar panels;

battery storage; cavity wall insulation; external wall insulation; internal wall insulation; retrofit coordination; retrofit assessing and retrofit inspection.

Retrofit Type	East Midlands	West Midlands	Total (Midlands)
ASHPs	19	19	38
Battery Storage	19	19	38
Cavity Wall Insulation	19	20	39
External Wall Insulation	19	19	38
Internal Wall Insulation	4	1	5
Solar Panels	20	19	39
Retrofit Assessor	19	20	39
Retrofit Coordinator	16	19	35
Retrofit Inspector	0	0	0

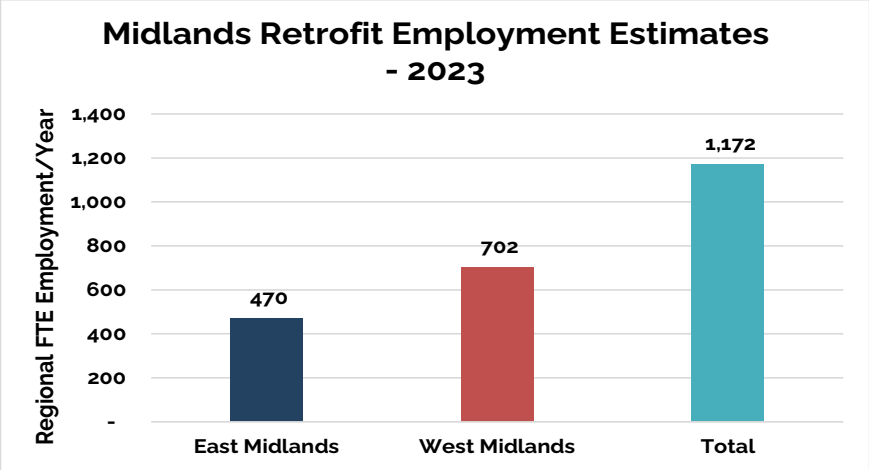
Table 5: Trustmark estimates of number of retrofit companies by trade

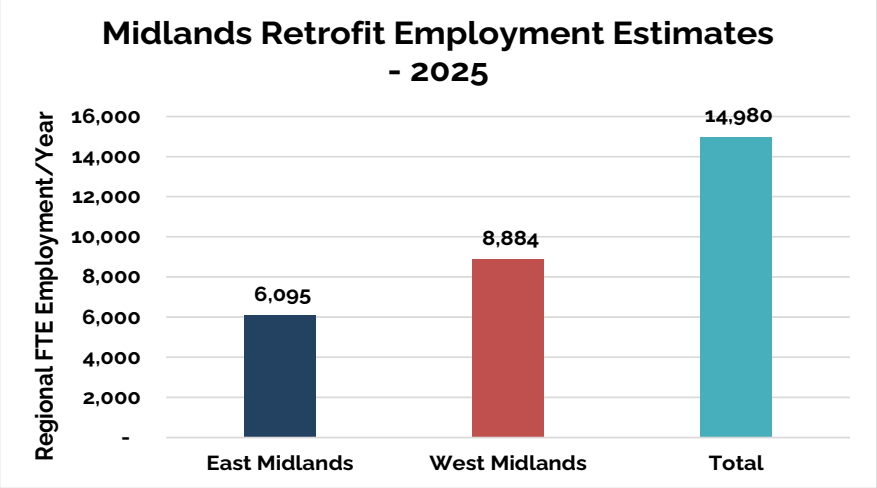
CITB Net Zero Action Plan

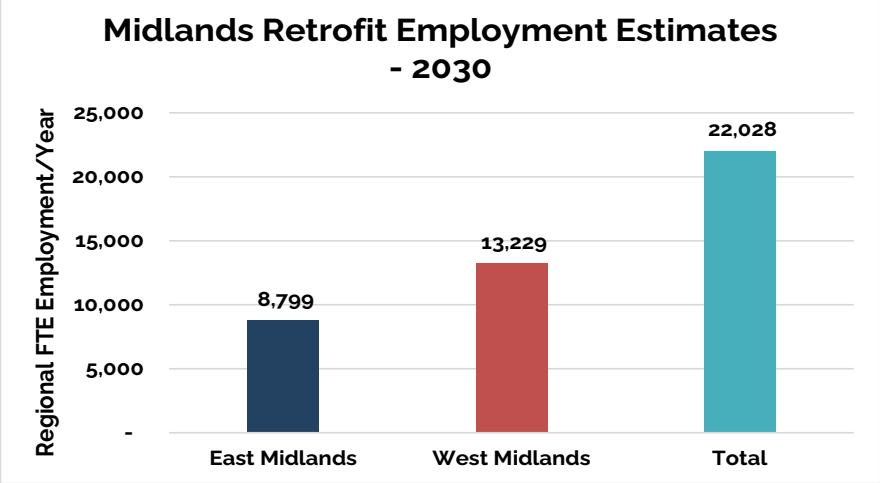
- Skills is one of the four major strategic priorities for CITB, at present and in the future.
- Provide clear training pathways and qualifications that are fit for purpose.
- CITB will sponsor CLC's (Construction Leadership Council)'s National Retrofit Hub, bringing together stakeholders across UK to support local retrofit delivery.
- In the future, retrofit-relevant qualifications and training pathways need to be more easily identifiable, that ensure employers have access to suitable training (including appropriate format/location). Training must also be delivered by Quality Assured network of TPs and the content and delivery must be responsive to changing skills needs.
- Future funding support will be directed to priority areas i.e. retrofit coordinators, insulation installers.
- Changes will also be made to the CITB labour Forecasting Tool, allowing for sub-regional geographical area skills demand intelligence.

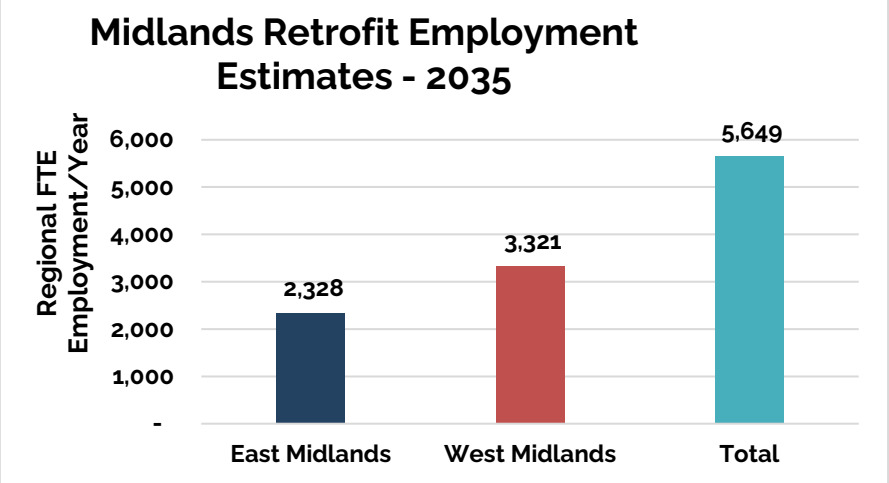
The Installation Assurance Authority

- Below are four graphs projecting employment estimates in solid wall, cavity wall, flooring and roofing retrofit activities for domestic properties.









The IAA data was based on the DESNZ House Hold Energy Efficiency statistics:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1146687/Detailed_HEE_tables_-_Mar_2023.xlsx

Progress in reducing emissions, 2023, Report to Parliament:

https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-emissions-2023-Report-to-Parliament-Charts-and-data.xlsx

Development of trajectories for residential heat decarbonisation to inform the Sixth Carbon Budget, the Climate Change Committee:

Development of trajectories for residential heat decarbonisation to inform the Sixth Carbon Budget (Element Energy) - Climate Change Committee (theccc.org.uk)

Commonalities and Conclusions

From consulting the three Local Authority Retrofit Skills Plans, the evaluation reports for the Green Homes Grant Skills Training Competition and Home Decarbonisation Skills Training Competition (Phase1) and other relevant data/literature, a number of strong themes have emerged.

The most prominent theme is the consistent challenge posed by a lack of awareness around retrofit. For businesses, there is uncertainty around the state of the market. With a perceived lack of direction in the retrofit market and how sustainable (from a business perspective) green business is. As there is a perceived lack of competition in the market currently, the market's future seems uncertain. This perception is also prevalent through the relative lack of awareness by the general public (potential customers) i.e. cost, what retrofitting does, which retrofit technology to use, etc). A very common theme from learners was a lack of awareness around the career pathways/options in retrofit. The lack of standardisation and consistency across courses has exacerbated this.

Another common view held by respondents/interviewees was that many of the challenges that the retrofit sector faces are more severely faced by SMEs. For example, many SMEs do not have

the resources/capacity to fulfill many of the bureaucratic requirements that training, taking on apprentices and signing up to council contracts demand e.g. putting anti-slavery policies in place, regular reports (as was weekly/bi-weekly) as was required for the Home Decarbonisation Skills Training Competition. SMEs in particular have struggled with the timing and costs/demands of past initiatives. For instance, if labourers/tradespeople are paid to come in to assist in training, this would result in net capital losses (day's work pays more than the subsidies paid by TPs). The highly intensive nature of previous courses and the short timeframes for delivery added significant pressure to SMEs especially. (One contradiction to note here is the perception from TPs that courses should be extended for at least 12 months and yet the feedback they received from SMEs helping with the training is that this would take place during peak businesses times in a year).

Also, it was widely reported that entering the retrofit sector was particularly unattractive for young people. On top of the uncertainty around the retrofit market and the potential career pathways (or perceived lack of) it can offer, poor commitment to various courses was fed back. Specifically, it was observed that by far the biggest incentive to learners was the fact that the course was free. This, according to interviewees, led to learners signing up without fully understanding the demands and content of the course. As a result, there was a relatively high drop-out rate/rate of uncompleted courses. This suggests that the content in and of itself was not especially engaging for learners. A potentially critical factor, should a similar skills pilot be geographically upscaled, is the disproportionate impact of residing in a rural area. Transport costs in East Lindsey, classified as 'semi-rural' was believed to have severely discouraged young people from paying to travel. By contrast, in Birmingham, this issue was not raised.

Regarding skills gaps, several commonalities were identified. While training in various trades were highlighted as being highly demanded, the particular need for retrofit coordinators and assessors was referenced frequently. Though not all local authority plans went into equal granularity as to the current workforce estimates, Birmingham with by far the largest workforce, estimated there were as little as two retrofit coordinators in total. There is clearly also a shortage in ASHP installers, as opposed to installers for other energy efficient technologies.

Finally, it is also clear that the demand for skills in energy efficiency is especially high in the Midlands. Nationally, 58% of domestic properties have EPC ratings below C, compared to 66% across the three local authorities (nearly 380,000 domestic properties). Also, looking at data in the growth in energy efficiency, 2023 was one of the worst years in the last decade a 14% reduction in the number of houses gaining C+ EPC rating on the year before.

APPENDIX I – Survey Findings

The Survey was a MS Office Forms survey comprising of 14 questions as a mix of tick box answers and short text boxes. The questions were pre-agreed with MNZH. This would only take around 5 to 10 minutes to complete. It was open from the 27th February to the 8th March.

Survey respondents unanimously agreed that more retrofit skills were needed across the Midlands. When asked how sufficient or insufficient the size of the retrofit workforce, both at present and in the future, the overwhelming response was that it was insufficient both now and in the future. Whilst there is evidence of optimism regarding the future of the Solar PV workforce, the common perception is that the local area/region's workforce will remain insufficient for the foreseeable future for all other types of retrofit activity.

When asked how they felt about challenges in the current skills levels in the listed retrofit trades, a range of challenges were cited. The two broader challenges that have been cited regularly revolve around demand and the wider awareness around retrofit. These are not, however, mutually exclusive challenges, a lack of awareness is clearly a major contributor to the lack of demand there is for retrofit services. Another challenge cited multiple times was a perceived issue around certification. Not only are there significant barriers to gaining certification but there is currently insufficient support for new and relevant national organisation registration frameworks (e.g. MCS).

When asked about the perceived present and future skills levels were and would be across a range of skill types, a much more mixed picture emerges. While a consensus has emerged that there are currently not enough tradespeople in a majority of key trades, it is anticipated that progress will be made in the near future. This includes expected improvements in the number of skilled solid wall, floor and roof insulators.

We asked whether they were aware of any previous steps that have been taken to develop skills in the supply chain and if so to elaborate. The picture we got is that there is clearly a high level of awareness around previous steps taken to develop skills in the supply chain, including local development plans/initiatives and the stakeholders involved. However, in their opinion installers were still unable to recruit staff if they need them.

They also unanimously indicated that if staff are recruited, those staff required training to upskill them. This demonstrates the importance of new entrants and the fact that it is difficult to recruit from an already skilled pool of tradespeople.

In response to the question around installers' awareness of the methods for training staff, it was found that this was limited. Half of respondents were indeed aware of the availability of apprenticeships as an avenue for upskilling. By contrast, nearly all respondents felt that they were not adequately aware of how to access relevant funding. Furthermore, most respondents indicated that they did not know where relevant training is actually offered.

Regarding the wider knowledge around the various funds available, the results are much more balanced. At a minimum, at least half of respondents, were aware of the availability of all listed funding streams for workforce upskilling. The list included all the central government funding and the industry membership organisation funding.

These results complemented the finding from the three Local retrofit skills plans and so we feel it is a reliable data set to support the recommendations in the Midlands Retrofit Skills Plan.