



North West Regional Retrofit Skills Plan

June 2024

think...



This report has been prepared by Think Trinity Ltd and published by the **North West Net Zero Hub** supported with funding from the **Department of Energy Security and Net Zero**.

The report is provided for the purposes of knowledge transfer across the public sector. It aims to raise awareness of good practice approaches to delivering projects that support the net zero agenda. The **North West Net Zero Hub** is not liable for any decisions adopted by organisations based on the recommendations contained in this report.

Funded by:



In support of:



Published by:



Contents

Executive Summary	4
Introduction	6
1. Section 1: Assessment of the retrofit workforce and its challenges	7
1.1 The current retrofit workforce	7
1.2 Current skills delivery	12
1.3 Future skills requirements.....	20
1.4 Lessons learned from previous initiatives.....	25
1.5 Key challenges and priorities for action	28
2. Section 2: Retrofit skills plan proposed implementation activities	32
2.1 Summary of proposed implementation activities.....	32
2.2 Plan governance and oversight	32
2.3 Funding requirements	33
2.4 Details of proposed projects	34
Project 1. Reskilling the existing workforce for retrofit design, installation and maintenance	34
Project 2. Creating a high-quality retrofit co-ordinator and assessor workforce	35
Project 3. Informing and inspiring young people about future careers in the retrofit sector	36
Project 4. Increasing the number of people progressing from FE into the construction industry	37
Project 5. Increasing the number of apprenticeships in plumbing and heating	38
Project 6. Support to retrofit employers in diversifying their workforce	39
Project 7. Business support for retrofit market entry	40
Project 8. Improving retrofit procurement, demand aggregation and visibility.....	41
Project 9. Retrofit client-side skills programme.....	42
Project 10. Collaboration to develop regional / sub-regional centres of excellence, promoting best practice and innovation	43
Project 11. Retrofit content entitlement in construction training.....	44
Project 12. Retrofit education workforce development.....	45

Executive Summary

Introduction: The need for a retrofit workforce

To achieve carbon reduction targets in the next decades, the North West will need to undertake substantial decarbonisation of its housing stock. This will require the retrofit of the existing domestic housing stock to a) make the housing fabric more efficient, and b) adopt low carbon heating sources. This in turn necessitates a construction workforce of sufficiently numerous and skilled workers, who are engaging in retrofit work.

Key findings

- 1. The North West construction sector is substantial, and performs well in comparison to other regions in delivering retrofit work, but the proportion of the sector currently delivering retrofit work remains low.** Retrofit will be delivered by businesses operating in subsectors of construction. These subsectors employ c89k people in the North West, the majority in SMEs or micro-businesses. The number of businesses known to be delivering retrofit measures is low in comparison (approx. 200 businesses registered with Trustmark for assessment and delivery and 65 for ASHP installation) and particularly low in Cumbria. Nonetheless the North West has outperformed national averages in delivery on retrofit funding schemes, e.g. LAD2.
- 2. Having sufficient skilled labour in the construction sector is a necessary step to delivering the required retrofit workforce. The construction sector will require approx. 3.3k new skilled tradespeople per year to meet replacement demand.** Employment levels in construction in the North West to 2035 are forecast to remain stable or slightly decrease. However, there will still be significant replacement demand to replace workers leaving the workforce. The total net requirement for skilled trades will be 57k jobs between 2020 and 2035, which is equivalent to an annual requirement of 3.3k new skilled tradespeople.
- 3. The current pace of work to make the housing stock more energy efficient needs to be maintained – hence a workforce of a similar size to that currently operating is required.** The proportion of households that are graded at EPC C or higher in the North West has increased from 9.6% in 2008 to 44.5% in 2020. If this rate of increase continues, it will take until 2041 to achieve full coverage at EPC C. If the average labour time per unit remains the same, this would require a workforce of similar size to that currently operating.
- 4. Delivering low-carbon residential heating (in particular ASHPs) will require a considerable increase in the current pace of installations. Labour market pressures created by delivery of retrofit will be particularly felt in the ‘plumbing, heat and air-conditioning installation’ subsector, which will carry out this work.** Parity Projects data suggests a need for a workforce of between 6.6k and 11k plumbing and heating engineers for the retrofit in the North West excluding Greater Manchester, versus a workforce of 11k currently employed in the subsector, with potential shortfalls in Cheshire & Warrington, Cumbria and Lancashire.
- 5. However, if the existing workforce in the ‘plumbing, heating and air-conditioning installation’ subsector were to switch in material numbers, from installing gas heating systems to air source heat pumps, then there would be a significant capacity in the region to accelerate roll out. This will require the existing workforce to have the opportunity and motivation to reskill.** The housing stock heated by condensing-combi boiler in the North West has seen an increase of 4.6% per year since 2008. If ASHP take-up were to happen at the same rate, it would take c19 years to roll out in the North West and could potentially be achieved with a workforce of similar size, subject to productivity improvements and the necessary reskilling.
- 6. More retrofit co-ordinators and retrofit assessors will be required, with a consistent standard of training and accreditation.** Parity Projects data suggests that there will be an additional workforce requirement of up to 400 Retrofit Coordinators overall across the North West. These roles are key to maintaining the quality of retrofit delivery, and so ultimately to achieving the desired outcomes of retrofit.
- 7. The North West’s further education and skills sector has the potential to train the new entrants required for the construction workforce.** In 2022/23 there were approximately 4.5k adult and 5k 16-18 enrolments in FE construction courses in the North West. However, there is a considerable variation in volumes between sub-regions and local authorities. Capacity of colleges in terms of facilities, course design and equipment is also variable. Most provision is of ‘Good’ quality, or better, as defined by Ofsted.

8. However, at present, insufficient numbers of learners progress from further education into work and/or apprenticeships in the construction sector. Progression rates into the construction sector from 16-18 and 19+ FE are low at 10% or less, meaning that only approx. 700 young people and adults progress into the sector each year. Only around half of the 4.7k construction apprentices starting in the North West each year are estimated to successfully complete.

9. Training to reskill the existing workforce for retrofit is limited in scale and up-take, and will need to grow to deliver the required workforce capacity. ESFA-funded delivery of MCS qualifications to become an ASHP installer is negligible. Privately-funded training is hard to quantify but appears to be small in scale. The limited scale of training delivery most probably reflects a lack of demand from learners and employers.

10. The construction sector in the North West is one of the least diverse in the region. Currently this is matched by a lack of gender and ethnic diversity in apprenticeship participation and a lack of gender diversity in FE construction programmes. Addressing this will be important in addressing future challenges in recruiting to the retrofit workforce.

11. Underlying demand-side challenges that act as barriers to businesses engaging in retrofit and developing the retrofit workforce. The short-term and unpredictable nature of funded programmes can make it hard for market participants to plan for business growth and skills needs. As a result, outcomes are sub-optimal for development of supply chain capacity. Demand-side challenges will need to be addressed if businesses are to choose to engage with retrofit and choose to invest in skills for themselves and their staff.

Recommendations

Five key priorities and 12 projects have been identified for the Retrofit Skills Plan:

Priority	Project	Skills plan target outcomes (by 2027/28)	Direct outputs from skills plan projects
A: Upskilling the existing workforce	1. Reskilling the existing workforce for retrofit design, installation and maintenance	i. 3,000 plumbers and heating engineers registered as MCS certified in the North West	i. 500 MCS qualifications delivered by Project 1.
	2. Creating a high-quality retrofit co-ordinator / assessor workforce	ii. 400 retrofit co-ordinator / assessor qualifications achieved in the North West	ii. 100 retrofit co-ordinator/assessor qualifications delivered by Project 2.
B: Growing the future workforce	3. Informing and inspiring young people about future careers in the retrofit sector	iii. Proportion of 16-19 construction learners progressing into employment in construction increases from 10% to 20%	iii. 250 learners p.a. delivered by Project 4.
	4. Increasing the number of people progressing from FE into the construction industry	iv. Apprenticeship achievements p.a. in construction in NW increases to 3,000	iv. 100 apprentices p.a. delivered by Project 5.
	5. Increasing the number of apprenticeships in plumbing and heating		
C: Increasing diversity in the workforce	6. Support to retrofit employers in diversifying their workforce	v. Proportion of starts on construction apprenticeships by females increases from 9% to 20%.	v/vi. 150 people from under-represented groups moving into employment delivered by Project 6
		vi. Proportion of starts on construction apprenticeships by BAME people represents share of population.	
D: Building capability on the demand side	7. Business support for retrofit market entry	vii. Increase in number of businesses in the North West registered with Trustmark for construction from 1,374 to 2,000, and number registered for renewable energy from 199 to 600.	vii. 100 businesses registered with Trustmark delivered via Project 7.
	8. Improving retrofit procurement, demand aggregation and visibility		
	9. Retrofit client-side skills programme		
E: Developing training capacity	10. Collaboration to develop regional / sub-regional centres of excellence promoting best practice and innovation	viii. Retrofit training by providers rated Ofsted 'Good' available throughout the North West.	viii. Five centres of excellence across the North West promoting best practice and innovation.
	11. Retrofit content entitlement in construction training		
	12. Retrofit education workforce development		

Introduction

North West Net Zero Hub (NWNZH) is a regional programme to promote investment in energy projects. NWNZH works with public sector organisations to improve the business case for their energy schemes. It undertakes strategic net zero activity on behalf of the Local Enterprise Partnerships (LEPs) and Combined Authorities. North West Net Zero Hub is funded by the Department of Energy Security and Net Zero.

In December 2023, NWNZH commissioned work to develop this North West Regional Retrofit Skills Plan (the Plan). The Plan is intended to assess the current state of the retrofit workforce and identify the necessary steps to develop the local workforce to be able to achieve net zero targets. The Plan draws together previous and new research as well as feedback from a range of organisations to identify key challenges in skills and employment, gaps and pinch points for the retrofit and energy efficiency sectors in the respective regions.

The project was delivered by Think Trinity Ltd, a post-16 skills and education consultancy based in North West England, in partnership with Brennan Wilson Ltd and Cambridge Policy Consultants.

This Plan consists of two sections:

1. **Section 1** provides an assessment of the retrofit workforce and its challenges.
2. **Section 2** sets out the proposed implementation activities for the Retrofit Skills Plan.

The following Annexes accompany the Plan:

1. Annex 1: Method
2. Annex 2: Stakeholder consultation
3. Annex 3: Data pack
4. Annex 4: Evaluation of Test & Learn pilot projects
5. Annex 5: Low Carbon Environmental Goods and Services (LCEGS) Retrofit Sector North West Data

1. Section 1: Assessment of the retrofit workforce and its challenges

This section covers:

- Data relating to the current retrofit workforce in the North West.
- A summary of relevant feedback from stakeholder consultation.

1.1 The current retrofit workforce

1.1.1 Retrofit subsectors in the North West

The retrofit of domestic housing stock involves a) making the housing fabric more energy efficient and b) adopting low carbon heating sources, along with supporting activities such as design, maintenance and provision of information. The businesses with the expertise to do this come from the following subsectors:

Figure 1: Construction subsectors that contribute to domestic retrofit

Sub-sector	Example contribution to retrofit
4321: Electrical installation	PV installation
4322: Plumbing, heat and air-conditioning installation	Decommissioning carbon, ASHP installation, PV installation
4329: Other construction installation	Building insulation
4331: Plastering	Making good
4332: Joinery installation	Making good
4333: Floor and wall covering	Making good
4334: Painting and glazing	Making good
4391: Roofing activities	PV installation
4399: Other specialised construction activities n.e.c.	Various specialist

It is worth noting that there isn't a simple one-to-one mapping of trades to individual subsectors. For example, plasterers or electricians will be employed in a number of these subsectors.

There are **c19k businesses in the North West active in these subsectors**. The subsectors with the highest business counts are 'Electrical installation' and 'Plumbing, heat and air-conditioning installation'. 93% of these businesses are micro (i.e. employ 0-9).

Figure 2: Sectors that deliver domestic retrofit in the NW, business counts, 2023

Sectors that deliver domestic retrofit in the Northwest, Business counts, 2023						
	Cheshire & Warrington	Cumbria	GM	Lancs	LCR	Total
4321 : Electrical installation	615	365	1,645	1,115	935	4,675
4322 : Plumbing, heat and air-conditioning installation	465	345	1,525	915	750	4,000
4329 : Other construction installation	145	65	460	245	200	1,115
4331 : Plastering	65	80	275	215	125	760
4332 : Joinery installation	350	310	995	740	450	2,845
4333 : Floor and wall covering	110	60	370	190	165	895
4334 : Painting and glazing	185	150	520	330	295	1,480
4391 : Roofing activities	115	125	400	255	250	1,145
4399 : Other specialised construction activities n.e.c.	295	240	800	545	405	2,285
Total	2,345	1,740	6,995	4,550	3,570	19,200

Source: NOMIS, UK Business Counts

Four of the five top occupations employed in the subsectors that deliver retrofit are in trades: Electricians and Electrical Fitters; Plumbers and Heating and Ventilating Engineers; Carpenters and Joiners; and Painters and Decorators.¹ These subsectors **employ c89k people in the North West**, with the highest volumes of

¹ Annex 3

employment being in the 'Electrical installation' (25,000) and 'Plumbing, heat and air-conditioning installation' (17,000) subsectors².

Figure 3: Sectors that deliver domestic retrofit in the NW, Employment, 2022

Sectors that deliver domestic retrofit in the Northwest, Employment, 2022						
Industry	Cheshire & Warrington	Cumbria	GM	Lancs	LCR	Total
4321 : Electrical installation	4,000	1,500	9,000	6,000	4,500	25,000
4322 : Plumbing, heat and air-conditioning installation	2,000	1,000	6,000	3,500	4,500	17,000
4329 : Other construction installation	800	600	1,500	1,000	1,000	4,900
4331 : Plastering	100	200	600	400	250	1,550
4332 : Joinery installation	1,000	1,000	3,500	2,500	1,750	9,750
4333 : Floor and wall covering	500	200	1,250	600	500	3,050
4334 : Painting and glazing	800	800	2,250	1,250	1,250	6,350
4391 : Roofing activities	600	600	2,000	900	1,500	5,600
4399 : Other specialised construction activities n.e.c.	2,250	1,250	6,000	3,500	2,500	15,500
Total	12,050	7,150	32,100	19,650	17,750	88,700

Source: NOMIS, BRES

Using data provided by K-matrix from the 2022/23 Low Carbon Environmental Goods and Services (LCEGS) dataset, it is estimated that **the North West's retrofit sector was worth £1.7bn to the North West's economy** in 2022/23 (slightly below 1% of the total³); with activities related to solar (PV, thermal), heat pumps (air, ground, water), and bioenergy (biomass, biogas) having the highest turnovers. The estimate for the number employed in the North West undertaking these activities in 2022/23 was 15,000. **The majority of employees were in SME businesses (over 40%), followed by micro sized businesses (comprising of 30% of employees).** Only 3% of retrofit employees work in corporations.⁴

Figure 4: Estimated contribution to GDP of domestic retrofit, by subregion

Estimated contribution to GDP (£m) of domestic energy retrofit by subregion	
C&W	301
Cumbria	108
GM	681
Lancs	304
LCR	311

Source: kMatrix

The construction sector in the North West is one of the least diverse sectors in the region. 94% of employees in the North West identify as white (85% of the population), 84% of the sector nationally is male.⁵ Approximately 80% of the construction workforce in the North West is qualified at Level 3 and below⁶.

² <https://www.nomisweb.co.uk/sources/bres>

³ This compares with 5.5% of GVA for the Construction sector

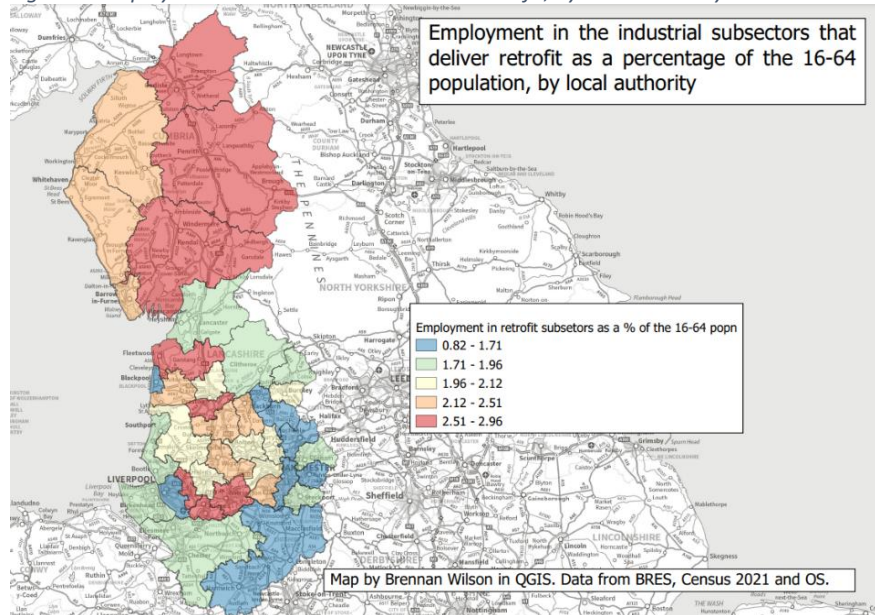
⁴ Analysis of K-matrix data undertaken by LCRCA analysts at Annex 5.

⁵ Annex 3

⁶ <https://department-for-education.shinyapps.io/education-to-employment-dashboard/>

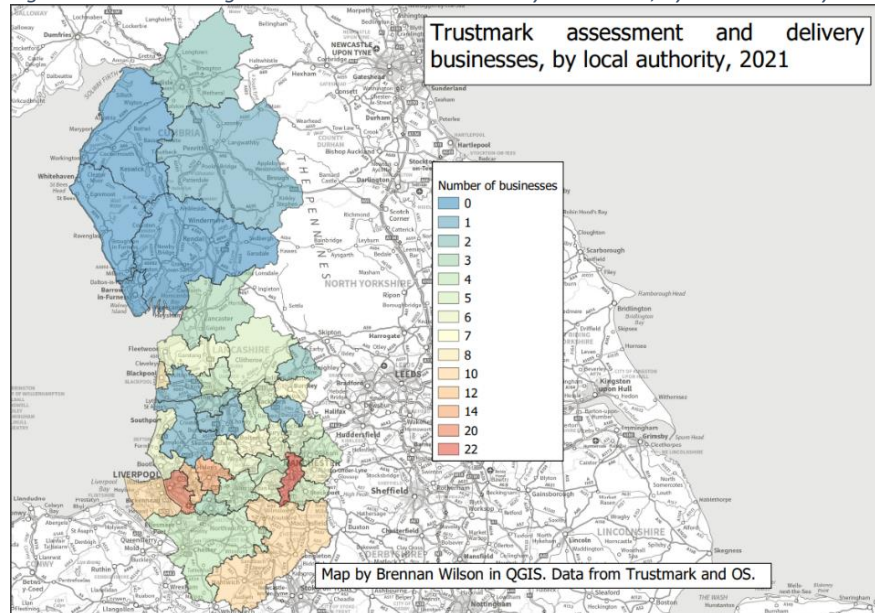
When employment in the subsectors that deliver domestic retrofit (the subsectors as defined in Figure 1 above) is considered as a percentage of the 16-64 population by local authority, it ranges from 2.96% in Warrington to 0.82% in Manchester (Figure 5). At sub-regional level there is a narrower distribution ranging from 1.6% in Greater Manchester to 2.5% in Cumbria.

Figure 5: Employment in subsectors that deliver retrofit, by local authority⁷



In 2021, 7% (1,374) of the businesses in the subsectors that deliver retrofit in the North West were registered with Trustmark to deliver services. 202 businesses in the North West registered to deliver 'Assessment and Delivery' services⁸ with Trustmark, with the highest concentrations being in Manchester (22) and Liverpool (20). By contrast the six Districts of Cumbria had 3 registered businesses between them (Figure 6). Raw data for this is available at Annex 3⁹.

Figure 6: Trustmark registered assessment and delivery businesses, by local authority



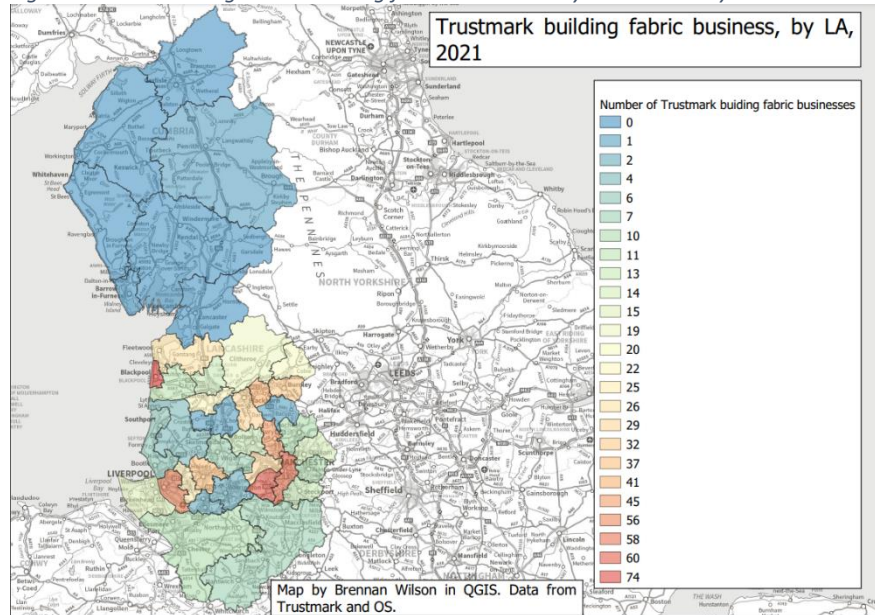
⁷ The six District councils and County Council of Cumbria no longer exist, having been replaced by two unitary authorities. Most historical data is available in the old District/County geography rather than for the two Unitaries and is presented according to this older administrative geography.

⁸ These include Domestic Energy Assessors, Energy Efficiency Retrofit Inspectors, Retrofit Assessors, and Retrofit Co-ordinators. This is a business count rather than a count of individual tradespeople.

⁹ Slide 15

In 2021, there were 713 businesses in the North West registered to deliver 'Building Fabric'¹⁰ services with Trustmark, with the highest concentrations being in Blackpool (74) and Trafford (60). By contrast the six Districts of Cumbria had 1 registered business between them (Figure 7).

Figure 7: Trustmark registered building fabric businesses by local authority



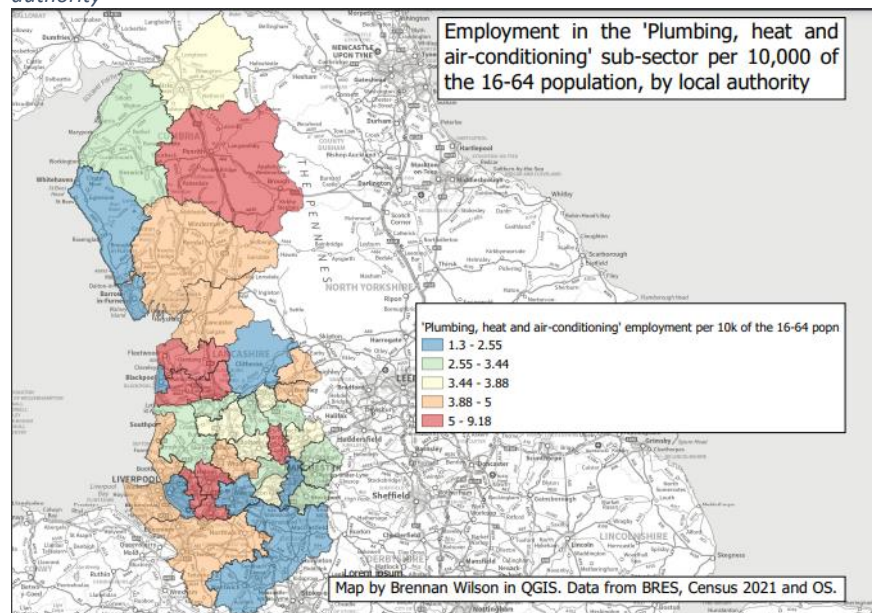
The low levels of Trustmark registration stand in contrast to the relatively high levels of employment in the subsectors that deliver retrofit (Figure 2 above)

1.1.2 The plumbing, heat and air-conditioning subsector in the North West

88.4% of dwellings in the North West (c2,826k of 3,197k) use gas as the main fuel type for heating¹¹. For houses to be heated by low carbon systems will require these gas heated homes to have their current heating system decommissioned and new net zero systems (probably Air Source Heat Pumps) installed. Safe decommissioning of gas heating will need to be undertaken by appropriately qualified plumbers/gas heating engineers. In any event, all installation of new heating systems will be done by this industrial subsector (i.e. SIC 4322).

40% of the jobs in the 'Plumbing, heat and air-conditioning' subsector are plumbers.¹² When employment in the 'Plumbing, heat and air-conditioning' subsector is considered per 10,000 of the 16-64 population by local authority, it ranges from 9.18 in Knowsley to 1.3 in Manchester. Every sub-region has a local authority that features in the top-quintile on this metric, except for Cheshire and Warrington; although Cheshire West and Chester has above average employment in this subsector (Figure 8).

Figure 8: Employment in the 'Plumbing, heat and air-conditioning' subsector, by local authority



¹⁰ These include Cavity Wall Insulation, Draught Proofing, Energy Efficient Glazing and Doors, External Wall Insulation, Roof Insulation, Floor Insulation, Loft Insulation.

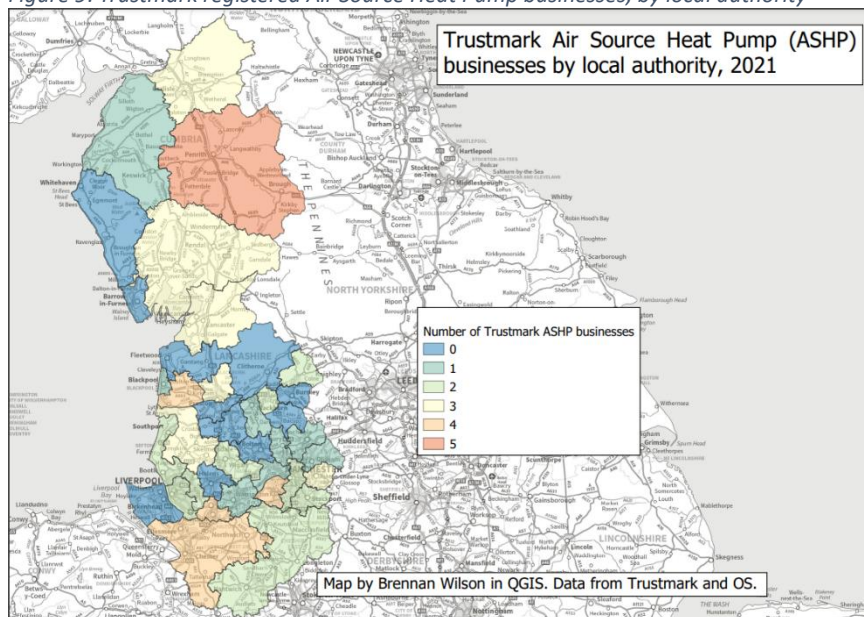
¹¹ English Housing Survey

¹² Annex 3

In 2021, there were only 65 businesses in the North West registered with Trustmark¹³ to install Air Source Heat Pumps. Eden was the local authority with the highest number of registrations (5). 11 local authorities had no registrations for ASHP installers (Figure 9):

- St. Helens
- Burnley
- Wyre
- South Ribble
- Ribble Valley
- Wirral
- Bolton
- Chorley
- Rossendale
- Barrow-in-Furness
- Copeland

Figure 9: Trustmark registered Air Source Heat Pump businesses, by local authority



1.1.3 Key themes from stakeholder consultation

Relevant themes from the stakeholder consultation carried out for this project are summarised in Figure 10.¹⁴

Figure 10: Key themes from stakeholder consultation – the current retrofit workforce

Stakeholder perspective	Key themes – the current retrofit workforce
Employers	<ul style="list-style-type: none"> • Many employers state that they could increase the volume of retrofit work they undertake with access to greater volumes of skilled labour. • Notable shortages and gaps¹⁵ reported across the region include: <ul style="list-style-type: none"> ○ Heat pump installers ○ Photovoltaics installers ○ Insulation installers ○ Building surveyors ○ Construction trades including multi-skilled tradespeople ○ Skills gaps / variable quality amongst the retrofit assessor and co-ordinator workforce • Skills gaps in the supply chain, including skills to plan for business growth as well as administrative and digital capabilities, limit the ability of smaller businesses to engage with retrofit funding schemes. Key challenges include meeting administrative requirements of schemes, responding to short timescales for application and delivery, and managing peaks and troughs in demand.
Employer Representative Bodies (ERBs)	<ul style="list-style-type: none"> • There is a shortage of energy/retrofit assessors. • Diversity needs more action. Some initiatives exist within individual colleges and there have been some promising women-only programmes but overall there has been limited impact so far.
LEPs / CAs	<ul style="list-style-type: none"> • A number of sub-regions refer to an overall lack of labour in the local economy. Engaging economically inactive groups should be a consideration in looking to expand the construction / retrofit workforce. • The North West (notably Liverpool City Region and Lancashire) supply chain has demonstrated an ability to absorb allocated funding budgets (e.g. LAD2) and take on underspends from elsewhere. However, it is hard to say whether this has helped reduce skills gaps/shortages in the workforce.
Local authority retrofit leads	<ul style="list-style-type: none"> • Skills gaps and shortages are causing issues with the quality and timeliness of some retrofit activity. Typically retrofit work can be delivered, but pinch points exist. • Notable shortages include too few retrofit coordinators and assessors. Electricians and ASHP installers are in high demand. • Stop/start nature of the market, driven by Government grants, hampers efforts to develop supply chain scale, depth and quality. • Smaller firms can be reluctant to enter the retrofit market meaning less of the economic benefit accrues locally. This is in part driven by non-retrofit demand outstripping supply for core trades, meaning businesses are not short of work, but also by procurement and administrative requirements.

¹³ Data from Trustmark

¹⁴ Annex 2

¹⁵ The definitions used here are: (a) skills gap: employees do not have the required skills, qualifications or experience; (b) skills shortage: demand for workers for a particular occupation is greater than the available supply.

	<p>Procurement timescales can mean that consortium models are challenging, and many customers prefer a single lead contractor.</p> <ul style="list-style-type: none"> • There are specific challenges in Cumbria including a relatively limited local supply chain, which results in retrofit activity being undertaken from contractors from outside Cumbria.
Registered providers of social housing (RPs)	<ul style="list-style-type: none"> • Skills shortages and gaps are causing some delays to retrofit work, which in turn encourages RPs to take the simplest path to EPC 'C', rather than a more comprehensive 'fabric first' approach. • Skills gaps and shortages reported by RPs, in most areas to varying degrees, include: <ul style="list-style-type: none"> ○ Retrofit Coordinators (reported most commonly, both as a shortage and a gap) ○ Retrofit Assessors (shortage) ○ Thermal bridging (gap) ○ Ventilation (shortage and gap) ○ Joiners and general builders (shortage) ○ Damp contractors (shortage) ○ Heat pump installers (shortage) ○ EWI and IWI provision (shortage) • RPs themselves acknowledge gaps in technical and non-technical retrofit knowledge and skills which limit their ability to act as 'intelligent client' for retrofit works and undertake ongoing maintenance, and to support their customers to make effective and efficient use of low carbon technologies in their homes. Upskilling staff has led to retention problems because contractors pay better.

1.2 Current skills delivery

This section covers:

- The current publicly-funded skills delivery for the construction sector as a whole in the North West.
- The current publicly-funded delivery of skills linked to the decommissioning of domestic gas heating and the installation of net zero heating.
- A summary of relevant feedback from stakeholder consultation.

This means that the scope of the analysis is for publicly-funded training – albeit delivered by public and private providers. Privately-funded training is difficult to quantify due to the absence of published data, but our consultations suggest it is relatively small in scale. Since many of the qualifications required by MCS are eligible for public funding (see section 1.2.2.1 below) it appears unlikely that privately-funded training delivery is substantially outpacing publicly-funded training.

1.2.1 Construction skills

1.2.1.1 Apprenticeships

Apprenticeships are the main route for individuals to gain the skills they need to work in the construction industry. **In 2022/23 there were 4,668 starts on construction apprenticeships in the North West.**

However, the quality of apprenticeship delivery is not always guaranteed. Not everyone that starts a construction apprenticeship successfully completes it. Recent official data for the quality of construction apprenticeships in the North West is not available but **nationally only half (53.4%) of those that started an apprenticeship (all Sector Subject Areas) completed it** (2021/22 data).¹⁶ If this were the achievement rate for Construction apprenticeships in the North West, this would amount to 2,493 achievements pa.

The main providers of construction apprenticeships (all ages) in the North West tend to be colleges, with some locally significant independent training providers (Gen2, Growth Company and Total People) also in the mix. The 20 top providers of apprenticeships in construction in the North West are set out in Annex 3. The key arbiter of the quality of skills provision is Ofsted. Only two of the main providers of construction apprenticeships in the North West have been graded as requiring improvement by Ofsted¹⁷.

The main apprenticeships relevant to domestic retrofit are in plumbing and heating (see below, section 1.2.2.2). It is possible to acquire the skills needed to decommission carbon burning heating systems and to install and maintain carbon-neutral heating systems through this apprenticeship route. At the moment many of the skills needed to deliver other retrofit activities, for example, improving domestic housing fabric, are

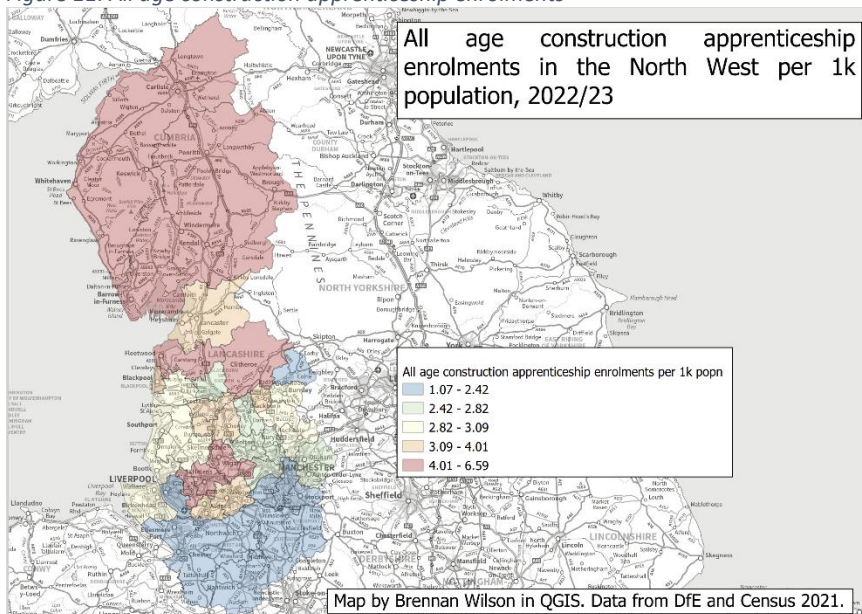
¹⁶ <https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships>

¹⁷ <https://www.gov.uk/government/statistical-data-sets/further-education-and-skills-inspections-and-outcomes-management-information-from-september-2023-to-august-2024>

best acquired through specific apprenticeships in construction such as a fenestration installer, or joinery, or as a roofer. This report takes an overview of construction apprenticeships before focussing on apprenticeships in plumbing and heating.

The variation in the number of (all age) enrolments on construction apprenticeships by local authority is quite wide with the **number of enrolments per 1k population being lower in the south of the region and higher in Cumbria**. The local authority with the highest rate of enrolment is Cumberland, with an enrolment rate almost six times higher than the authority with the lowest enrolment rate, which is Manchester (Figure 11).

Figure 11: All age construction apprenticeship enrolments

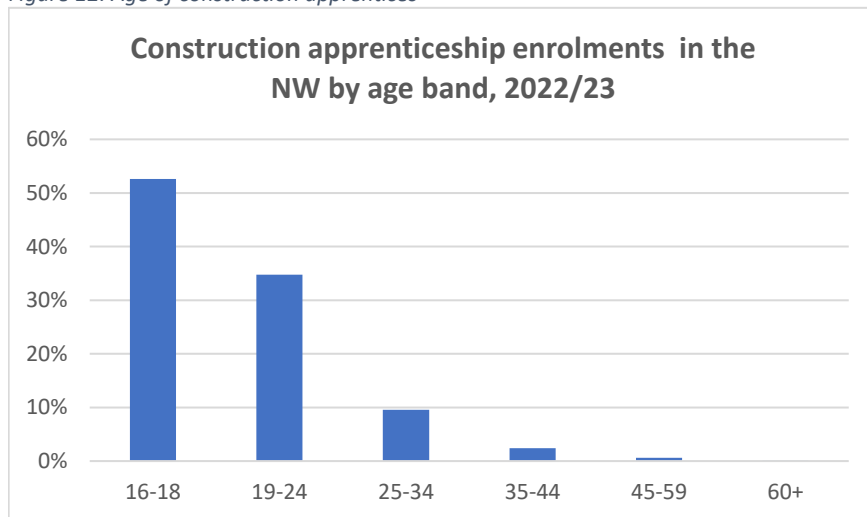


45% of enrolments on construction apprenticeships were at Level 3 with a further 39% being at Level 2. This closely reflects the overall skill levels in the construction workforce discussed in Section 1.1 above.

The ethnicity of apprenticeship enrolments in Construction is not published for the North West but it is **known that the number of BAME apprentices in the North West is very low**. There are also **very significant gender disparities in construction apprenticeship enrolments** ranging from 7% female enrolments (Lancashire and GM) to 12% (Cumbria).

The age distribution of apprenticeships is shown in Figure 12. **Almost 90% of enrolments on apprenticeships in Construction in the North West are by people aged 24 and below**. This suggests that in the construction industry apprenticeships are positioned at the point of recruitment. This contrasts with other sectors where apprenticeships are also used as a vehicle for the development of the existing workforce.

Figure 12: Age of construction apprentices



Source: DfE

1.2.1.2 Adult Further Education

In 2022/23 there were 4,485 enrolments by adults (age 19+) in Further Education on construction learning aims at Level 2 and above.¹⁸ Nationally, 83.5% of adults that started a construction learning aim at Level 2

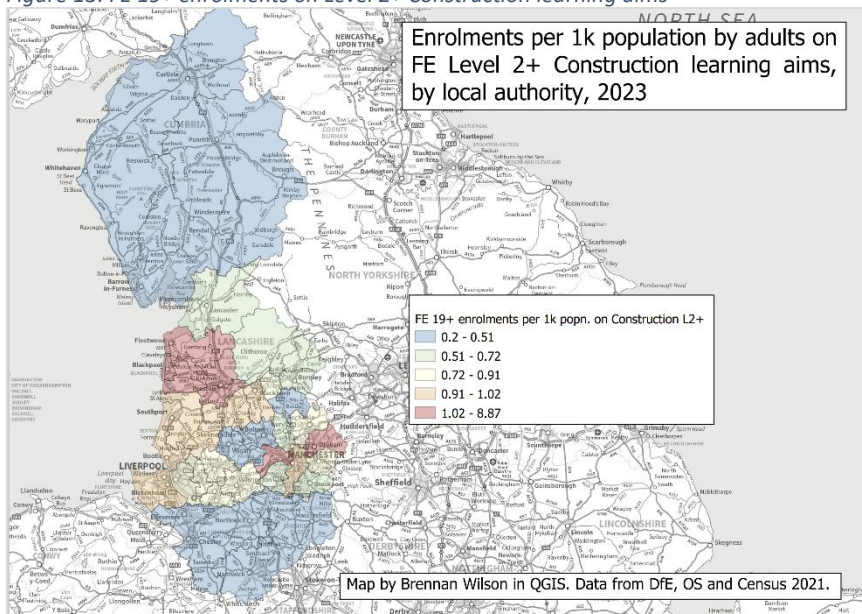
¹⁸ Annex 3. Data includes Free Course for Jobs

achieved it.¹⁹ However, we also know that only 210 adult FE learners who had studied construction at Level 2 or above in the North West in 2020/21 subsequently secured employment in the construction industry in the academic year after achieving their learning aim.²⁰

The heating and plumbing qualification route in FE is discussed below (Section 1.2.2.3). Other roles in construction that can support the retrofit agenda include carpentry and joinery, fenestration installation, roofers, insulation technician, painting and decorating etc. In theory, an entry route into many of these occupations can be a college course.

There is significant variation in the proportion of adults in different local authority areas enrolling on 19+ FE Construction learning aims at Level 2 or above. **Levels of enrolment per 1k population are lowest in Cheshire and Cumbria, with the lowest being in Westmorland and Furness at 0.2 enrolments per 1k population. Blackpool is an outlier at the other end of the scale with 8.87 enrolments per 1k population (Figure 13).**

Figure 13: FE 19+ enrolments on Level 2+ Construction learning aims



Over a third of all adult FE enrolments in the North West in Construction at Level 2 or above are delivered by two colleges— Blackpool and the Fylde College and Preston College. A handful of the providers with the highest enrolments are independent training providers, including PeoplePlus group, BCTG Ltd and Mantra Learning.

When the delivery of individual learning aims in construction at L2+ to 19+ residents in each sub-region is considered, the span of construction specialisms supported by this learning is quite broad. Many of these learning aims are designed to prepare learners for joining the industry, although the **FE outcomes data would suggest there is limited success in doing this**. Some are directly work-related, presumably targeting those already employed in the sector.

In 2022/23 there were **314 enrolments onto Construction Skills Bootcamps**, 178 of which were at Level 3, the remainder at Level 2. These are broadly the proportions that Level 2 and Level 3 skills are sought in the industry. Delivery was by independent private providers. No colleges in the North West delivered construction Skills Bootcamps in this year.²¹

The **participation of ethnic minorities** in Construction Level 2 19+ FE broadly reflects the composition of the wider population in the North West. There is a **very stark gender disparity** however, with only 6% of learners being female.

¹⁹ <https://explore-education-statistics.service.gov.uk/data-tables/further-education-and-skills>

²⁰ <https://explore-education-statistics.service.gov.uk/data-tables/further-education-outcomes/2020-21?subjectId=b8f54dc6-a9a6-4204-62d9-08ddea7ed563>

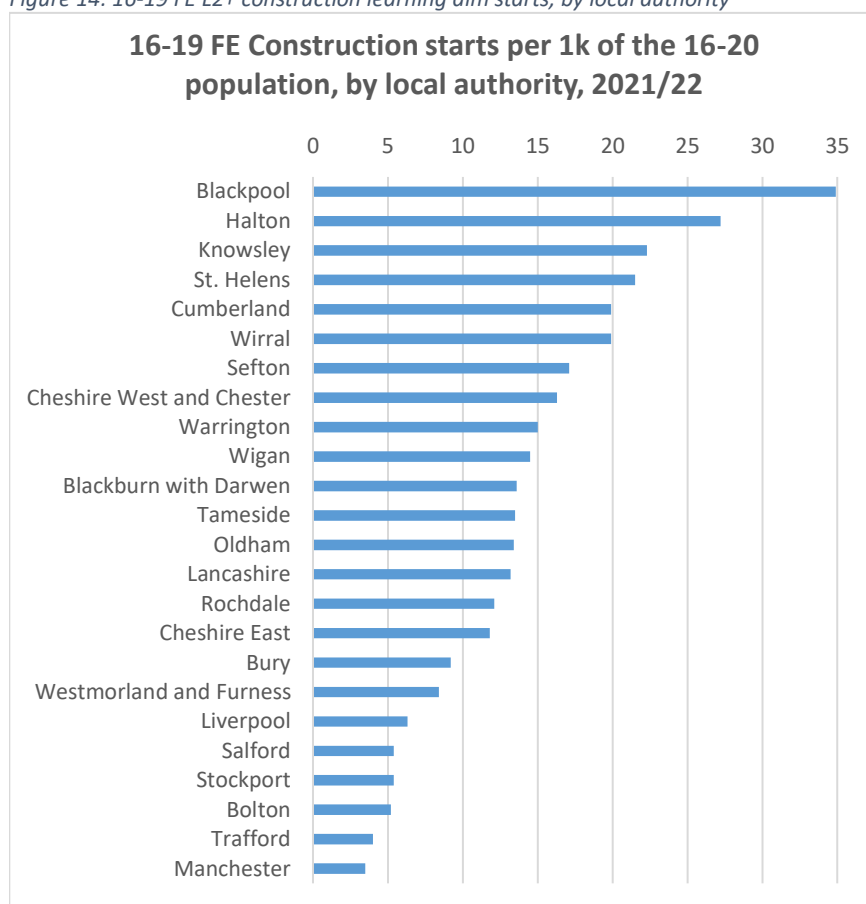
²¹ Annex 3

1.2.1.3 16-19 Further Education

In 2021/22, there were 5,088 starts on construction learning aims at Level 2 and above by young people age 16-19.²² However, in 2018/19 (the most recent data), **only 10% of construction learners aged 16-19 in the North West progressed to employment in the construction sector.**²³

In 2021/22, there was considerable variation in the number of 16-19 L2+ FE construction learning aim starts per 1k of the 16-20 population by local authority with the **highest rate of 34.9 in Blackpool being ten times higher than the lowest rate of 3.5 in Manchester** (Figure 14).

Figure 14: 16-19 FE L2+ construction learning aim starts, by local authority



Source: ESFA localities data cube (residency)

A very small proportion of these learning aim starts were by females (between 4% and 6% for each of the five sub-regions). The proportion of BAME learners was also below what might be expected from the population profile in all five areas.

The proportion of (L2+) learning aim enrolments in construction by 16-19 year olds at Level 3 in 2021/22 ranged from 21% in Cumbria to 44% in Cheshire and Warrington.

The top providers by volume, in each LA/CA, of L2+ construction learning²⁴ are:

- Cheshire College South and West (Cheshire and Warrington)
- NCG (Carlisle) and Lakes College (Cumbria)
- Wigan and Leigh College and Hopwood Hall College (Greater Manchester)
- Blackpool and the Fylde College and Preston College (Lancashire)
- Riverside College and Wirral Metropolitan College (Liverpool City Region)

²² Annex 3

²³ <https://explore-education-statistics.service.gov.uk/data-catalogue/further-education-outcome-based-success-measures/2019-20>

²⁴ Annex 3

1.2.2 Plumbing and heat engineering skills

1.2.2.1 MCS qualifications

MCS specify the qualifications required to become an MCS certified Air Source Heat Pump installer²⁵. More than half of these (colour-coded green in Figure 15) are fundable by the Education and Skills Funding Agency (ESFA). **However, ESFA-funded delivery in the North West of those learning aims not associated with apprenticeships is negligible²⁶**. This lack of delivery most probably reflects a lack of demand from learners/employers.

Figure 15: MCS qualifications to become an ASHP installer

Course title	Awarding body
Air Source Heat Pump Installer Course	BESA
Level 3 Award in Air Source Heat Pump Systems (Non-refrigerant Circuits)	BPEC
BPEC Level 3 Award in the Installation and Maintenance of Heat Pump Systems (Non-refrigerant Circuits)	BPEC
Level 3 NVQ Dip in Domestic Plumbing & Heating 600/6863/2-- EN2 (Heat Pumps)	BPEC
Heat pump system-- air source/ground source heat pump	BPEC
Level 3 Diploma in Plumbing and Domestic Heating (9189-04/05/06/07)	City & Guilds
Level 3 Award in the Installation and Maintenance of Heat Pump Systems (Non-refrigerant Circuits)	EAL
Level 3 Award in the Installation and Maintenance of Air Source Heat Pump Systems (Non-refrigerant Circuits)	LCL
Level 3 Award in the Installation and Maintenance of Heat Pump Systems (Non-refrigerant Circuits)	LCL
Heat Pump qualification	NICEIC
Installation, commissioning and servicing of air source heat pumps (OFT21-504A)	OFTEC
Design of heat pump systems (OFT21-504D)	OFTEC

1.2.2.2 Apprenticeships

In 2023 the **total number of apprenticeship enrolments in plumbing and heating in the North West (all ages) was c1.7k, with 56% of those being by learners aged under 19, and a further 35% being aged 19-24**. Apprenticeship learning aim enrolments in plumbing and heating were mostly delivered by local colleges, although JTL, The Growth Company and Total People also deliver significant volumes, with JTL having the highest volume overall.²⁷ **A very high proportion of these apprenticeship providers have been graded good or outstanding by Ofsted.**

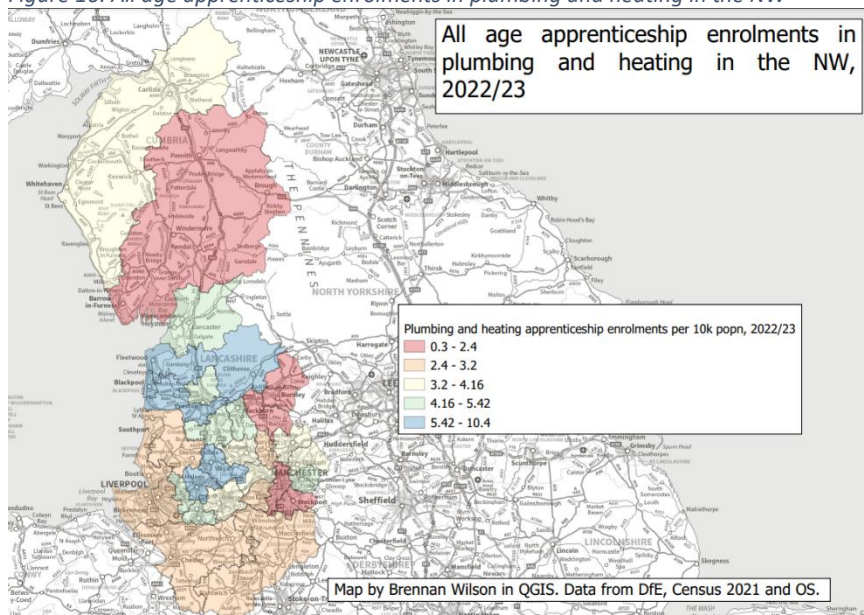
²⁵ <https://mcs-certified.com/skills-and-competency/find-a-training-course/>

²⁶ Analysis of DfE data

²⁷ Annex 3

There is a very large variation in the number of apprenticeship enrolments in plumbing and heating standards per 10k of the 16-64 population. **The lowest is 0.3 enrolments per 10k population in Pendle which is 35 times lower than the 10.4 per 10k that is seen in Wigan (Figure 16).**

Figure 16: All age apprenticeship enrolments in plumbing and heating in the NW



Almost two thirds of the plumbing and heating apprenticeship enrolments in the North West were in the Level 3 Diploma in Plumbing and Domestic Heating. There is an **option within this qualification to take a unit in Air Source Heat Pump Systems but there is no data available on take up of this in the North West.**

1.2.2.3 Adult Further Education

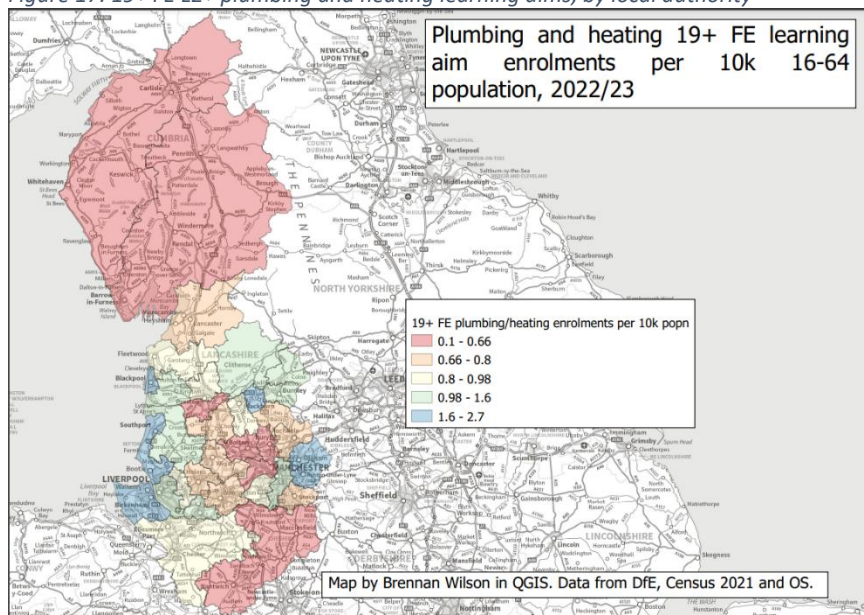
Where the delivery of adult further education is positioned as a means to upskill the existing workforce, adult FE can make a major contribution to the retrofit skills agenda (e.g. through Skills Bootcamps). For example, it can be used to deliver many of the MCS-required qualifications set out at section 1.2.2.1 above. **However, analysis of DfE data confirms that training of this type is not currently taking place in the North West or in significant volumes elsewhere** – likely because the demand for it (from employers and individuals) does not exist.

Adult FE can also, in theory, be used to support adults to enter the industry – either through provision of substantial qualifications as a gateway to the trades or through the delivery of Skills Bootcamps. **There is substantial room for improvement in using adult FE as a pathway to the trades.** As noted in section 1.2.1.2, only 210 adults in the North West sustained employment in Construction after achieving a construction learning aim in FE. Also as noted above, there were 314 construction Skills Bootcamp enrolments in the North West in 2022/23 but it is not clear whether these related to retrofit.

Adult FE enrolments in plumbing and heating learning aims are mostly delivered by colleges, with the highest volume being by the LTE group. Every provider delivering substantial adult FE volumes in plumbing and heating has been awarded a ‘Good’ or ‘Outstanding’ grade by Ofsted.

There is a significant spatial variation in the delivery of plumbing and heat engineering learning aims in 19+ FE in the North West. **The highest level of 19+ enrolments per head of 16-64 population was in the Wirral. The lowest was Cumberland (Figure 17).**

Figure 17: 19+ FE L2+ plumbing and heating learning aims, by local authority



The delivery of this type of learning aim is skewed to the 19-24 age group. This is probably because the 19-24 participation data will also include infill by some learners on 16-18 programmes.

The Diploma in Plumbing studies, which includes units on domestic heating and domestic hot water systems, accounts for almost half of all 19+ FE learning aim enrolments in plumbing and heating in the North West. This is a Level 2 programme designed to deliver the basic skills and knowledge necessary to enter the plumbing industry as an Improver/Plumber's Mate; although the data discussed above suggests such progression is at low levels²⁸.

1.2.3 Home Decarbonisation Skills Training

The Department for Energy Security and Net Zero has also funded training to support retrofit delivery. It has supported training providers to provide appropriate training and support to installers operating across the different Department for Energy Security and Net Zero retrofit schemes. This has encompassed:

- Installation training to the specific technology standard – for example, National Occupational Standards, PAS 2030:2019 standards, PAS 2035 standards or higher.
- Training in the installation of one or more individual energy efficiency measures, including training for individuals with existing construction skills and training for those new to the sector
- Support for training in retrofit assessor and retrofit coordinator skills to PAS 2035 standard, leading to the relevant qualification

The table below summarises delivery on this scheme which shows that the North West has accounted for 16% of all starts (cf 13% population share) with a training completion rate of c70%.

Figure 18: Home Decarbonisation Skills Training

Home Decarbonisation Skills Training			
	Started	Completed	% completed
England	8,706	5,565	64%
North West	1,422	999	70%

Source: Midlands Net Zero Hub

²⁸ https://www.cityandguilds.com/-/media/productdocuments/building_services_engineering/plumbing/6035/6035_level_2/centre_documents/6035-02_l2_diploma_in_plumbing_studies_qhb_v5-7-pdf.ashx

1.2.4 Key themes from stakeholder consultation

Relevant themes from the stakeholder consultation carried out for this project are summarised in Figure 18.²⁹

Figure 19: Key themes from stakeholder consultation – current skills delivery

Stakeholder perspective	Key themes – current skills delivery
Employers	<ul style="list-style-type: none"> The most significant issue is an insufficient pipeline of learners progressing into apprenticeships or employment in key trades (notably plumbing, joinery, electrical). Greater demand side co-ordination of works would allow the supply side to work more effectively in planning for and meeting skills needs. Public sector schemes e.g. Skills Bootcamps, to recruit and train for low skilled roles, are welcomed and should be expanded, along with onward progression routes into skilled trades. There are examples of very effective partnerships between employers and colleges, ITPs or HEIs. For example, Blackpool and Fylde College has long-term agreements with local business which involved kit donation and steering on course content. Employers working with colleges and ITPs describe quality of training as generally good or satisfactory. However, the ability to match training demand and supply can be very variable. A number of employers operate their own training – some through longstanding employer provider arrangements, others stating that skills providers do not meet their requirements.
Employer Representative Bodies (ERBs)	<ul style="list-style-type: none"> Skills supply / colleges gearing up with facilities is variable. Some sub-regions (GMCA, Lancashire) are a little ahead of others. All sub-regions have some problems with construction staffing in colleges. There are insufficient numbers of apprentices in key trades. Full time technical courses are not leading into work/apprenticeships in anything like sufficient volumes. Adults are also needed for key trades to boost numbers. Short course offer for reskilling existing workforce is operating to some extent in some colleges, but not yet sufficiently developed, very variable and generally not a ‘public’ offer. Implementing and tracking progress of LSIPs, and related LSIF programmes, is key. Programmes are underway in some areas, e.g. green skills clusters / working groups.
LEPs / CAs	<ul style="list-style-type: none"> Information, advice and guidance to young people related to retrofit and broader green skills is limited, and needs to become more mainstream and more nuanced (e.g. re the variety of careers on offer). Good practice examples of collaboration within the education and skills sector, and between skills providers and employers, have created a base on which further retrofit skills capacity could be built. Examples include: in Cumbria, collaboration between University of Cumbria and Lakes College on engineering skills and green energy. In Greater Manchester a working group of colleges is collaborating to expand retrofit skills training delivery, enabled by the Local Skills Improvement Fund. In Lancashire, DfE’s Strategic Development fund enabled the creation of collaborative college working groups to engage employers in programmes focus on developing low carbon construction skills and the delivery of new training in sustainable energy.
Registered providers of social housing (RPs)	<ul style="list-style-type: none"> Concerns were expressed about the quality of short-course retrofit coordinator training by several RPs who had experienced problems with the quality of retrofit works carried out on properties. Incorporation of social value requirements around skills delivery has been limited in existing retrofit activity. Contract timescales make it practically difficult to require contractors to offer apprenticeships; shared apprenticeship schemes will help to address this but are difficult to operate at scale. RPs would welcome guidance on how a wider range of skills measures beyond apprenticeships (e.g. skills bootcamps, work experience) could be incorporated into social value requirements in future.
Skills providers	<ul style="list-style-type: none"> Capacity of providers in facilities, course design and equipment is currently variable, although some very good provision is available. Most providers have challenges recruiting and retaining construction staff, often due to better pay in industry.³⁰ Construction training staff need upskilling in retrofit. National standards tend to include retrofit as an option not a requirement. Some providers have made it an entitlement and most want to. Retrofit programme content can vary significantly as can equipment and staff competence. There is a lack of proper support in terms of funding, guidance and steering from elsewhere in the ecosystem, particularly around retrofit facilities, course design and intra-sectoral communications. Availability of apprenticeships in retrofit related trades is too low a volume relative to full time courses. Full time courses (young people) are often useful in content but not leading to apprenticeships.

²⁹ Annex 2

³⁰ This is consistent with long-standing, national staffing shortages for construction and engineering in further education. E.g. AOC College Workforce Survey 2020/21 (<https://d4hflztwt4wv7.cloudfront.net/uploads/files/AoC-Workforce-Survey-2020-21-Final-document.pdf>); FT 2022 survey <https://www.ft.com/content/cd5e8335-bc51-493d-928e-52e8e9b6df3c>

- **Adult programmes are very variable and low volume** in many areas-although some colleges stand out positively here.
- **Upskilling courses** are offered by variety of providers but **can be difficult to fill** due to low employer / learner demand.

1.3 Future skills requirements

The drivers for skills for retrofit in the future will be:

- The gross demand for labour driven by retrofit in the North West;
- Replacement demand for labour in the construction sector;
- Current capacity to make the housing stock more energy efficient; and,
- Current capacity to decommission gas in dwellings and install carbon-free heating as its replacement.

The impact of these drivers is considered separately below, along with feedback from stakeholder consultation.

1.3.1 Labour demand created by retrofit

Parity Projects have undertaken detailed modelling³¹ of the labour requirement arising from delivery of housing retrofit in four of the North West's five regions. Parity Projects have developed two scenarios 'limited fabric' and 'full fabric' for this.³² The modelling suggests that the **labour market pressures created by delivering housing retrofit by 2040, and even by 2050³³, will be particularly acute in the Plumbing, heat and air-conditioning installation subsector; and particularly so for the 'all fabric' scenario in Cheshire & Warrington, Cumbria and Lancashire** (Figures 20 and 21 below).

Figure 20: Sub-regional employment compared to Parity estimates of retrofit labour requirement (all fabric scenario)

Current subregional employment in key subsectors compared to Parity estimates of annual retrofit labour requirement (all fabric scenario, 2040 Target).				
	Insulation specialists	Plumbing and heating	Current employment in the other construction installation subsector	Current employment in the Plumbing, heat and air-conditioning installation subsector
C&W	438	2,711	800	2,000
Cumbria	406	1,571	600	1,000
Lancs	825	4,218	1,000	3,500
LCR	953	2,514	1,000	4,500

Figure 21: Sub-regional employment compared to Parity estimates of retrofit labour requirement (limited fabric scenario)

Current subregional employment in key subsectors compared to Parity estimates of annual retrofit labour requirement (limited fabric scenario 2040 target).				
	Insulation specialists	Plumbing and heating	Current employment in the other construction installation subsector	Current employment in the Plumbing, heat and air-conditioning installation subsector
C&W	88	1,657	800	2,000
Cumbria	63	953	600	1,000
Lancs	177	2,569	1,000	3,500
LCR	479	1,436	1,000	4,500

³¹ This is based on Parity's assessment of current levels of labour time required for different retrofit tasks, although average labour times may decrease as future efficiencies are realised (e.g. the decrease of labour time required for ASHP installation with the development of more efficient refrigerants). Parity's 'All Fabric' scenario has been used, this provides an upper limit on the labour requirement. Parity Projects modelling is not available for GMCA.

³² The principal difference between the Parity scenarios is the level of fabric investment. The 'limited or less disruptive fabric' option does not include measures such as internal/ external/ underfloor insulation which some households may consider too disruptive to install. The 'all fabric' scenario includes measures which households might consider disruptive e.g. solid wall insulation.

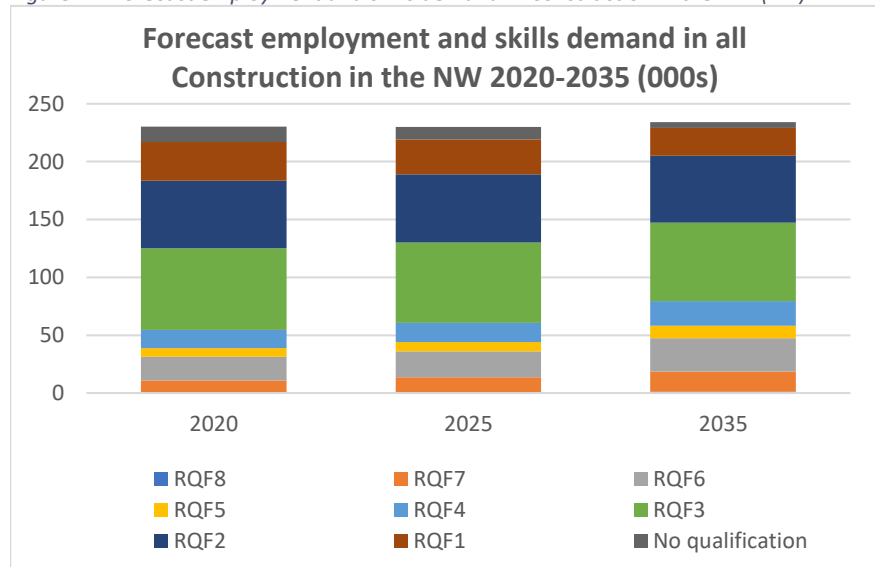
³³ Annual labour requirement changes inversely with the amount of time needed to meet the target.

The Parity work also suggests that there will be a **labour requirement of approximately 200 (limited fabric) to 400 (all fabric) p.a. for Retrofit Coordinators**³⁴ across the region including Greater Manchester (2040 target).³⁵

1.3.2 Forecast demand for labour in construction in the North West

The Institute of Employment Research forecasts that **employment levels in construction in the North West will remain stable to 2035 although demand for higher skills will increase** (Figure 22).

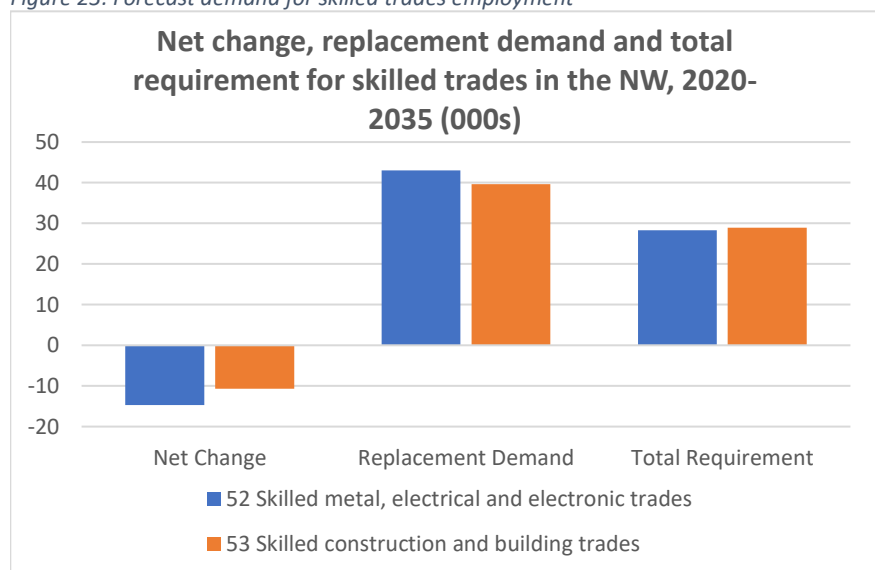
Figure 22: Forecast employment and skills demand in Construction in the NW (IER)



Source: Institute of Employment Research/Cambridge Econometrics/NFER, Skills Imperative 2035

The net requirement for skilled trades is expected to decrease although there will still be large levels of replacement demand. The total requirement for skilled trades in the North West will be 57k jobs between 2020 and 2035, which is equivalent to **an annual requirement of 3.3k skilled trade jobs** (Figure 23).

Figure 23: Forecast demand for skilled trades employment



Source: Institute of Employment Research/Cambridge Econometrics/NFER, Skills Imperative 2035

1.3.3 Delivering an energy efficient housing stock

Analysing the existing capacity and delivery of the subsectors that will deliver retrofit is important in developing an understanding what the net labour requirement will be in the future. The older a property is the less likely that it will currently be graded as EPC 'C'. In addition, flats and detached houses are currently

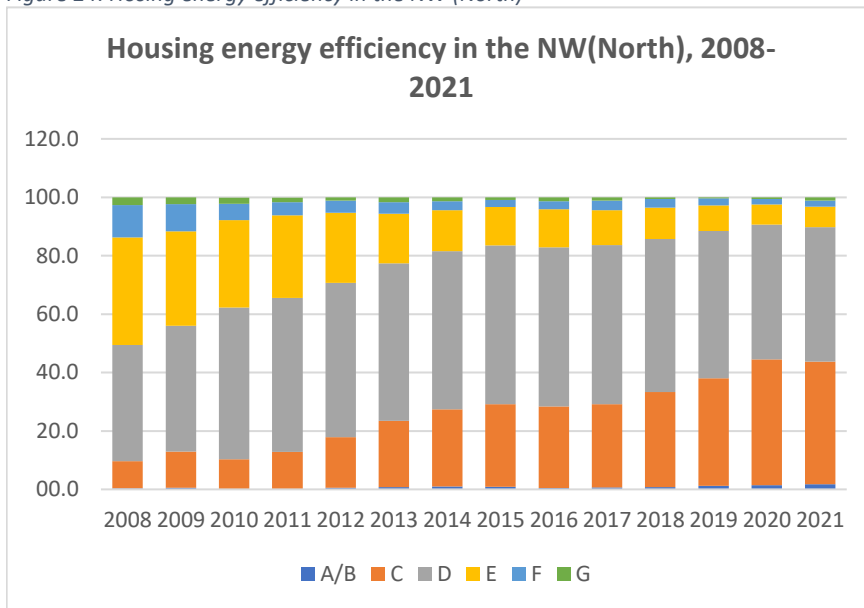
³⁴The Parity Projects methodology assumes that PAS style processes are followed or at least that the retrofit coordinator workload is similar to that required for PAS delivery. The Parity Projects work did not provide a separate projection for retrofit assessors.

³⁵ Annex 3

more likely to be graded at EPC 'C' than terraced and semi-detached houses³⁶. The average labour time to upgrade an older property to EPC 'C' is likely to be higher than for newer stock. Conversely, the average labour time to upgrade a terraced house to EPC 'C' is like to be lower than for a detached house.

The proportion of all households that are graded at EPC C or higher in the North West (the North to 2019) has increased from 9.6% in 2008 to 44.5% in 2020. This represents an annual increase of 2.9ppt in the percentage of stock graded at EPC C or higher. **If the rate of increase in the percentage of housing stock achieving EPC C continues, it will take to 2041 to achieve full coverage at this level in the North West.** If the average labour time per unit to upgrade the remaining housing stock in the region were to be the same as the current average labour time per unit, **this would require a workforce of similar size to that currently operating** (Figure 24).³⁷

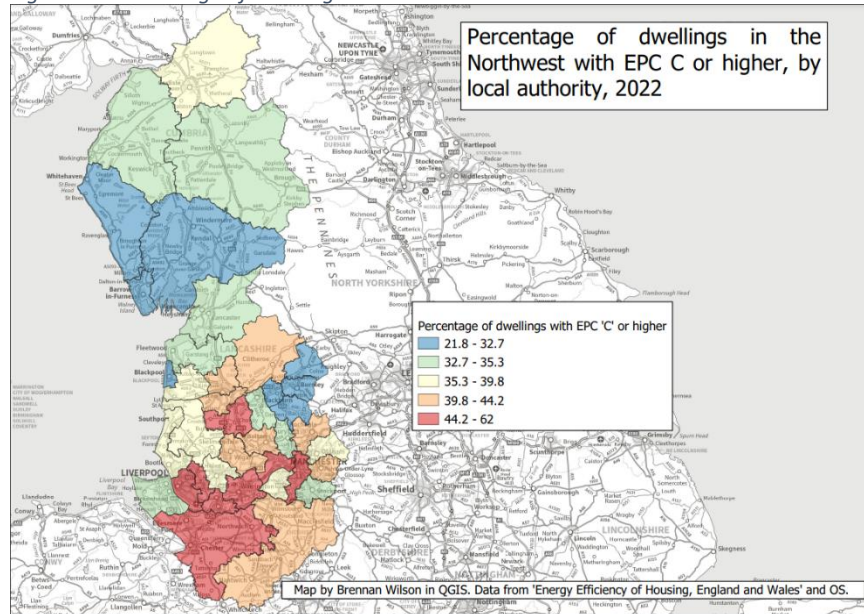
Figure 24: Housing energy efficiency in the NW (North)



Source: English Housing Survey. Data to 2019 is for the whole of the North

However, there is a significant variation in the percentage of dwellings with EPC C or higher in local authorities in the North West, with 21.8% in Pendle to 62% in Salford (Figure 25). This means that some local authorities have further to travel than others and, conversely and all other things being equal, some local authorities will hit this threshold earlier than 2041. **On the current trajectories it will be significantly more challenging for Cumbria to achieve this threshold than, for example, Greater Manchester.**

Figure 25: Percentage of dwellings rated EPC C



There is also significant variation of dwellings achieving EPC C by tenure type in the North West:

- The % of owner-occupied dwellings with an EPC C or above ranges from 13% in Pendle to 43% in Salford.

³⁶ Annex 3

³⁷ Note that the assessment methodology is to change in 2024, and it is anticipated that the proportion of stock rated at EPC C or higher may increase as a result.

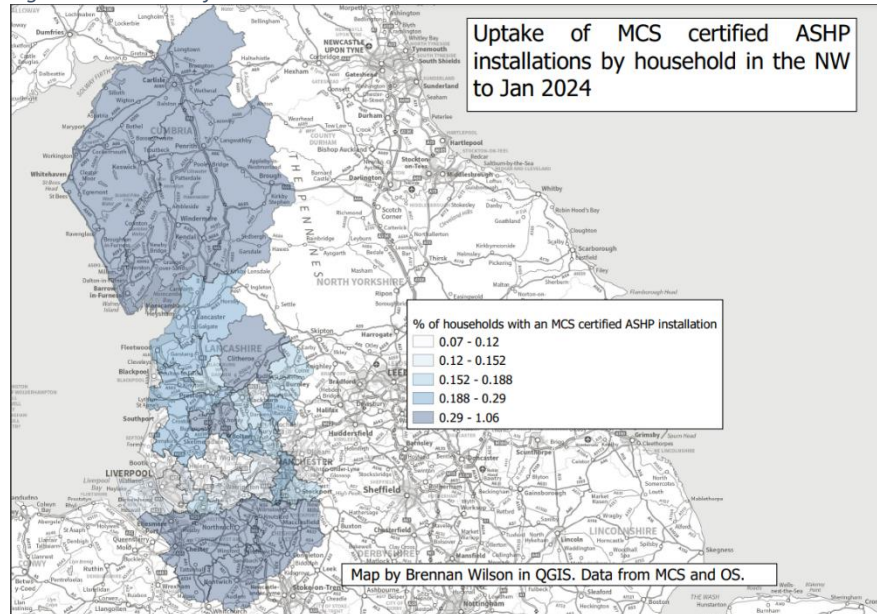
- The % of private rented dwellings with EPC C or above ranges from Pendle at 13.6% to Salford at 54%.
- The % of social rented at EPC C or above ranges from Allerdale District at 44.7% to Salford at 76.8%³⁸

1.3.4 Residential heating without carbon

A central objective of housing retrofit is to heat homes without direct burning of fossil fuels. This means decommissioning the gas heating that heats 88% of dwellings in the North West and replacing it with a means of heating that does not directly burn fossil fuels. Our assumption is that this replacement will generally be Air Source Heat Pumps (although there are many other options that may be suitable in certain circumstances, e.g. water source heat pumps, ground source heat pumps, hydrogen, mains electricity etc).

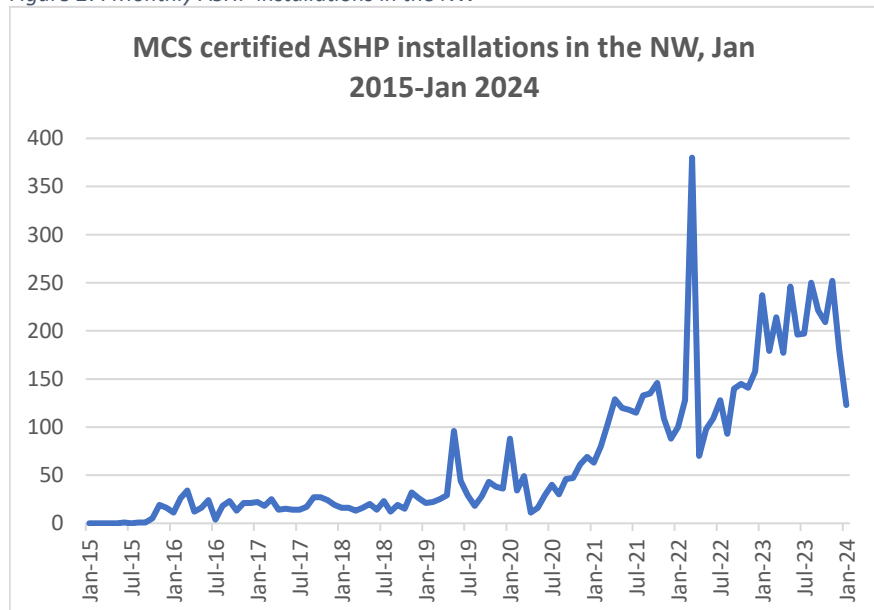
There is a long way to go. Very low numbers have converted to Air Source Heat Pumps (ASHP) so far. The proportion of households with an MCS certified ASHP installation is 1% or below in every local authority in the North West (Figure 26). The position nationally is similar.

Figure 26: MCS certified ASHP installations in the NW



The 162 MCS certified contractors in the North West, along with others serving the North West market, are slowly ramping up delivery of ASHP installations. The high point for monthly installations was in March 2022, which saw 380. This month also saw one of the peaks in LAD2 delivery. **If monthly delivery continued at this peak, it would take about 700 years to roll out ASHPs in the North West (Figure 27). Delivery at this rate would see the Government's target for ASHP installation of c72k in the North West (600k nationally) by 2028, delivered in 16 years' time.**

Figure 27: Monthly ASHP installations in the NW



Source: MCS data dashboard

³⁸ Annex 3

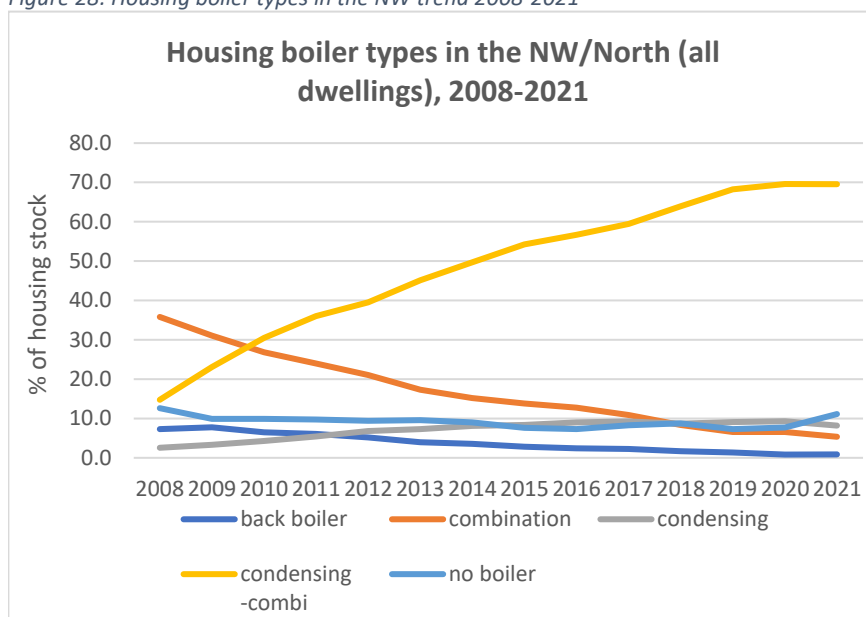
However, if the *existing workforce* of the ‘Plumbing, heat and air-conditioning installation’ subsector acquired the skills needed to install and service ASHPs and *stopped installing gas-fired heating systems*, then there would be a significant capacity in the region to accelerate ASHP roll out.

There is an example of a pivot like this being achieved previously when it was driven by Government policy. In 2003, condensing boilers were made mandatory from 1st April 2005. The change was made in the 2003 Energy White Paper, announced in March 2003, thereby giving the supply chain 2 years’ notice. A rapid programme of skills and training was recognised as critically important in the short period between the White Paper publication and implementation of the new standard. The Level 3 ‘Energy Efficiency Installer Certificate’ was launched and provided 70,000 installers with the skills needed to specify and install condensing boilers and properly advise consumers on high-efficiency heating systems.³⁹

To date the labour time associated with the installation of ASHPs has been about double that for the installation of combi gas boilers⁴⁰. This is largely because the water temperature output by ASHPs has been lower than for gas boilers which has necessitated the installation of new radiators (with greater surface area) as well as a new heat source. However, there have been recent advances in the efficiency or refrigerants used in ASHPs which have resulted in a hotter water output⁴¹. This obviates the need for new radiators. Developments like this are resulting in a convergence of the labour time required for gas boiler installation and ASHP installation.

The percentage of housing stock heated by condensing-combi boiler in the North West has seen a year-on-year increase from 2008 to the pandemic in 2020, increasing from 14.8% to 69.6%. This represents an average ppt increase of 4.6% pa (Figure 28).

Figure 28: Housing boiler types in the NW trend 2008-2021



Source: English Housing Survey. Data to 2019 is for the whole of the North

If ASHP take up were to happen at the same rate as we have seen for the installation of condensing-combi gas boilers, it would take c19 years for full roll out to the 88% of housing stock in the North West currently reliant on gas. If, as seems likely, the average labour time required for ASHP installation converges with that required for the installation of gas boilers, then **this could be achieved with a workforce of similar size to the current workforce employed by the ‘Plumbing, heat and air-conditioning installation’ subsector, subject to the necessary reskilling**. This reskilling would be primarily focussed on reskilling plumbers who comprise 40% of the workforce in this subsector (compared with, for example, electricians comprising 1.6% of the subsector’s workforce).

³⁹ <https://www.creds.ac.uk/publications/the-story-of-condensing-boiler-market-transformation-a-briefing-note-for-beis/>

⁴⁰ <https://www.gov.uk/government/publications/cost-of-installing-heating-measures-in-domestic-properties>

⁴¹ <https://www.bbc.co.uk/news/business-67511954>

1.3.5 Key themes from stakeholder consultation

Relevant themes from the stakeholder consultation carried out for this project are summarised in Figure 29.⁴²

Figure 29: Key themes from stakeholder consultation – future skills requirements

Stakeholder perspective	Key themes – future skills requirements
Employers	<ul style="list-style-type: none"> The majority of interviewees state that they intend to increase the size of their workforce (including retrofit specific roles and wider trades) in the one to three-year horizon – some have substantial growth ambitions. A minority state that they intend to retain the same size of workforce. Reasons given include desire to focus on current pipeline, lack of confidence that the right skills can be found, and caution due to start-stop nature of market. A few indicate that they see recruitment as primarily a means of meeting replacement demand.
Local authority retrofit leads	<ul style="list-style-type: none"> All sub-regions report that the ‘able to pay’ market has considerable potential (and could generate significant additional demand for skilled labour) but is currently untapped. Cost of living pressures may exacerbate this. Finance solutions will be required in order to expand take-up. GMCA’s ‘Your Home Better’ is a potential model for wider roll out in connecting owner-occupiers to suitable contractors, improving the former’s knowledge of, and confidence in, retrofit. However the ‘able to pay’ market is arguably more challenging for contractors due to lower economies of scale resulting from demand for more bespoke retrofit solutions, very low demand aggregation (one customer = one house), and low level of customer knowledge. Some LA retrofit leads highlighted potential for progress in decarbonisation to be accelerated via new innovations in retrofit technologies and modern methods of construction (in relation to retrofit installation). Modern methods of construction may also assist in attracting a more diverse workforce.
Registered providers of social housing (RPs)	<ul style="list-style-type: none"> Despite all RPs targeting EPC ‘C’ for their stock by 2030 (and net zero by 2050), there was limited feedback provided about RPs’ detailed plans for future retrofit, owing to lack of clarity about the future focus of Government funding schemes. Almost all RPs identified a need to build their internal knowledge about retrofit (across a very wide range of roles) as well as the skills of key RP staff (primarily those working within DLOs) to maintain and service retrofit technologies. RPs are still learning about how best to procure and manage retrofit so the mix of retrofit interventions and therefore the skill requirements arising from this may change over time.

1.4 Lessons learned from previous initiatives

1.4.1 Previous government funded programmes

The North West has completed delivery of a number of retrofit programmes and is still delivering on multiple funding programmes. Several of these programmes have overlapping timelines. The coverage of these schemes in the North West is shown (by green highlights) in Figure 30.

Figure 30: Key retrofit funding programmes by North West coverage⁴³

Strategy	Programme	Ches. & Warr.	Cumbria	GMCA	Lancs	LCR
Heat and Buildings Strategy	SHDF Wave 1					
	SHDF Wave 2.1					
	SHDF Wave 2.2					
	SHDF Wave 3	Scheme to be announced in 2024, commencing 2025				
	HUG 2					
Sustainable Warmth	LAD 3 & HUG 1					
LAD	LAD 2					
	LAD 1b					
	LAD 1a					
ECO	ECO 4	LAs supporting resident referrals into scheme				
	ECO 3	LAs supported resident referrals into scheme				
ECO+/GBIS	Great British Insulation Scheme	LAs supporting resident referrals into scheme				
EES	Energy Efficiency Scheme	TBC				
LAD4	Local Authority Delivery 4	Scheme to be announced in 2024, commencing 2025				

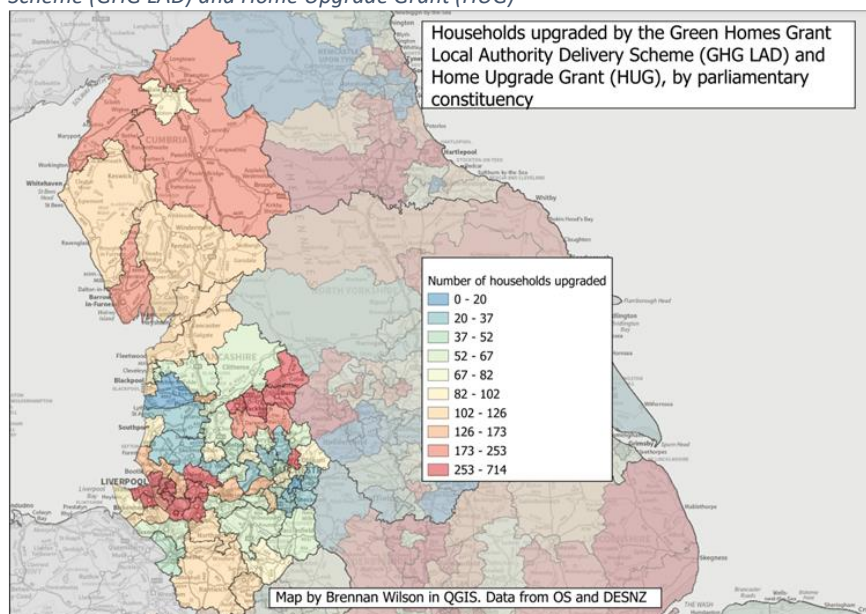
⁴² Annex 2

⁴³ NWNZH analysis from information published on gov.uk

The North West region has out-performed the national average in engagement with these schemes, typically absorbing 15% of funding for England, in a region representing 13% by population.

The take up of government schemes to upgrade households is relatively high in the North West. Figure 31 shows the number of households upgraded by the Green Homes Grant Local Authority Delivery Scheme and the Home Upgrade Grant. Take up has been high in the Liverpool City Region, East Lancashire and Cumbria.

Figure 31: Households upgraded by the Green Homes Grant Local Authority Delivery Scheme (GHG LAD) and Home Upgrade Grant (HUG)



Source: DESNZ data

The region’s approach of leading programmes at a sub-regional level, along with having set up strong procurement routes, appears to be effective.⁴⁴ For example, AECOM’s evaluation of LAD 2 states that the North West spent more than originally allocated, taking on under-spend from other regions. Heat demand reduction measures were installed in 65% of properties in the North West versus 42% nationally (supporting a fabric first approach). The use of local contractors was seen to deliver social value through apprentices, community work and training.⁴⁵

Other lessons learned from the LAD2 evaluation include:

- Local Authorities lack resource capacity, which can add to delays in delivery and produces an overstretched workforce. There is often a reliance on outsourced skills and resources potentially reducing Local Authority control and influence on outcomes and targets.
- There are limited Local Authority resources available to run simultaneous programmes across the North West. For example, multiple schemes running concurrently are often delivered by the same Local Authority staff teams. Areas may have to choose between schemes rather than bidding for all programmes that could benefit their areas.
- There are a limited number of skilled workers available to install desired measures, restricting a “fabric first” approach.
- Stop/start funding limits the future pipeline of work and reduces the number of skilled workers available.⁴⁶
- Using local contractors is an advantage to the future pipeline of work; it builds supply chains within the region, creates new jobs and training opportunities, and delivers wider social benefits.
- The sharing of Medium Term Improvement Plans will allow the future pipeline of potential works to be ascertained.⁴⁷

⁴⁴ NWNZH analysis from information published on gov.uk

⁴⁵ AECOM North West Housing Retrofit Programme Evaluation (July 2023)

⁴⁶ See Section 1.3.4 regarding uneven profile of ASHP delivery relating to peak of LAD2 project delivery

⁴⁷ AECOM North West Housing Retrofit Programme Evaluation (July 2023)

The rate of delivery via funded programmes in the North West is increasing. For example, the North West received £105.3m in awarded funding in SHDF Wave 2.1, versus £26.4m in SHDF Wave 1.⁴⁸ Further funding rounds are expected to follow. However, the value of further funding rounds (e.g. £500m to be allocated via LARS) is not expected to match the previous pace of growth. Hence the North West may reach an upper limit of retrofit funding capacity in upcoming schemes.

1.4.2 Government investment in training supply: DESNZ

The retrofit skills offer to employers and learners has benefitted from several rounds of DESNZ investment. In late 2023, wave 2 of the Home Decarbonisation Skills Training Competition⁴⁹ awarded £8.85m to 24 providers nationally to support subsidised places on training courses through to Spring 2024, in areas such as specific technical standards (such as PAS 2035 or PAS 2030:2019); installation of energy efficiency measures; and retrofit assessor and coordinator roles. This built on a Phase 1 Home Decarbonisation Skills Training Competition in 2022/23⁵⁰ (managed by Midlands Net Zero Hub) which invested £9.2m in subsidising 9000 training places; and the 2020/21 Skills Training Competition, which provided £6m to support 7000 subsidised retrofit training opportunities.

In addition, in April 2024 DESNZ launched a Year 2 Heat Network Competition⁵¹, to stimulate demand for (and supply of) skills required to install and maintain heat networks, intended to give trainees a £500 discount on course fees (which must be a maximum of £600) from Summer 2024 to Spring 2025. It follows Year 1 of the scheme, when eight training providers accessed this funding. Domestic retrofit is not the focus of this fund but it may have benefits in increasing supply of, and interest in, related skills.

Clearly this investment will help to stimulate employer demand for retrofit training, particularly among SMEs, who might otherwise not budget for investment in staff development. Though it is notable that independent training providers, rather than colleges, appear to have secured the bulk of DESNZ competition funding. This is despite many colleges receiving DfE funding over recent years to adapt and improve facilities and curriculum to respond to the impact of the transition to Net Zero on employer skill needs (see below).

1.4.3 Government investment in training supply: Department for Education (DfE)

The implications for employer skills needs arising from the transition to Net Zero, including in relation to retrofit, has been a common focus for DfE investment in further education over the past five years. In parallel with the DESNZ activity described above, DfE has invested in the capacity of the FE provider base in relation to technical skills, including Net Zero and retrofit, via recent programmes including:

- Strategic Development Fund (SDF) Pilot, 2021/22⁵²: £65m nationally (£38m as capital, £27m revenue) to reshape technical skills delivery to better meet employer needs. In the North West, college-led networks in Lancashire and Cumbria were two of only eight nationally that won a share of the funding.
- Strategic Development Fund, 2022/23⁵³: £92m nationally (£50m capital, £42m revenue), of which £12m was secured by NW college-led networks, split fairly evenly across the five sub-regions.
- Local Skills Improvement Fund, 2023 to 2025⁵⁴: a £165m, two-year investment (all capital, except for £40m in 2023/24) to support the response to skills priorities set out in the Local Skills Improvement Plans developed by employer groups. £23m of this resource is being invested in NW England, the largest sum in Greater Manchester (£8.5m).

These investments are in addition to ongoing DfE capital investment in the college estate. In some cases this has focused on improving the college construction skills facilities, including in relation to retrofit.

⁴⁸ NWNZH analysis from information published on gov.uk

⁴⁹ <https://www.gov.uk/government/publications/home-decarbonisation-skills-training-competition-phase-2>

⁵⁰ <https://www.gov.uk/government/publications/home-decarbonisation-skills-training-competition>

⁵¹ <https://www.gov.uk/guidance/apply-for-the-heat-training-grant-discounted-heat-network-training>

⁵² <https://www.gov.uk/government/publications/skills-accelerator-trailblazers-and-pilots>

⁵³ <https://www.gov.uk/government/publications/strategic-development-fund-awards-2022-to-2023>

⁵⁴ <https://www.gov.uk/government/publications/identifying-and-meeting-local-skills-needs-to-support-growth/local-skills-improvement-plans-lsips-and-strategic-development-funding-sdf>

Interviews with colleges highlighted how SDF and now LSIF have enabled colleges to expand their capacity to respond to retrofit skills needs – a view backed up by DfE’s evaluation of the SDF pilot⁵⁵. The uneven picture of SDF (and now LSIF) investment across the NW in part accounts for variations in capacity between colleges and sub-regions.

What is notable from DfE’s investment is that unlike DESNZ, its majority focus is on capital and facilities, rather than revenue budgets that can be used to (for example) reduce course fees or extend the range of programmes eligible for public funding. Stakeholder feedback suggests there is a need for both, and for the two to be co-ordinated.

1.4.4 Lessons learned from Phase 2 pilot projects

Running concurrently with the development of this skills plan, Test and Learn pilot projects across the five LEP / CA areas in the North West delivered activities designed to build supply-side capacity in relation to retrofit skills. The pilot projects aimed to build on work already undertaken in each area that had identified specific capacity issues that could be addressed in the short-term – chiefly in further education colleges. These included:

- Addressing gaps in colleges’ capacity – investing in heat pump equipment for training so that staff can deliver retrofit skills on-site.
- Undertaking staff continuing professional development (CPD) to upskill staff in different aspects of retrofit.
- Diversifying the supply-side offer to ensure colleges have training capacity across different manufacturers so that trainees are competent on the full range of current heat pumps, for example, or including more modules on the digital set up and management of low carbon heat systems.
- Introducing innovative teaching methods such as virtual reality house-types so that learners can apply their learning to different building types without leaving the classroom.
- Planning to improve the connection between employment and skills by engaging more unemployed people in potential retrofit careers.
- In Cumbria, seeking to map information on the supply of retrofit training and the needs of local SMEs, alongside provider-employer partnership development activities across retrofit.

The full evaluation report is attached as Annex 4.

The evaluation report concluded that the Test and Learn Pilots have succeeded in building the capacity of Colleges in the North West in a short timeframe by:

- Working in partnership – increasing sharing of practice lessons and market insight with an acceptance that this is the default model for investment in college capacity building.
- Engaging a wider range of businesses involved and with the potential to become involved in the retrofit market supporting course design and, in some cases, delivery.
- Meeting the KPIs set for the pilots but also widening understanding of retrofit training market, and of the potential challenges to colleges’ models in being able to meet short course employer demands and work flexibly with college staff.

This leads to a finding that there appear to be a number of potential opportunities to further develop college capacity in retrofit. The evaluation recommends that further work should build on the existing centres of excellence across North West region, and college networks, in order to address some fundamental issues in skills delivery relating to the retrofit.

1.5 Key challenges and priorities for action

Bringing the above analysis together, five key priorities have been identified:

- A. Upskilling the existing workforce
- B. Growing the future workforce

⁵⁵https://assets.publishing.service.gov.uk/media/650860ad22a783000d43e7cc/Skills_Accelerator_pilot_evaluation_research_report.pdf

- C. Increasing diversity in the workforce
- D. Building demand-side capability
- E. Developing training capacity

1.5.1 Priority A: Upskilling the existing workforce

The issues

In twenty years' time, half of the people currently employed in the retrofit subsectors, will still be employed in them. The urgency of the agenda means that we cannot just rely on the inflow of new workers with new skills. The current workforce must be retrained. Insufficient progress on that is being made to date. In our view, the main reason for this is that there is a lack of demand to acquire these skills from learners and employers. Some stakeholders believe that Government's aspirations for domestic retrofit are not supported by the effective policy levers necessary to drive consumer demand or industry behaviours.

Even though the training to required MCS qualifications is fundable by the ESFA, there is negligible funded delivery in the North West (other than through apprenticeships for those joining the industry). Generally speaking, colleges and other providers will try to respond to learner demand when it exists, so it is likely that lack of learner demand is the key barrier at present. However, if demand is to grow then it is imperative that the workforce has the skills to respond to this demand. Steps are needed to ensure the current workforce acquires the skills necessary, for example by promoting the acquisition of MCS-certified qualifications by plumbers and heating engineers so that they become competent in the installation and maintenance of ASHPs. IFF research suggests that approximately 60% of the heating and cooling installer workforce could be influenced to upskill.⁵⁶

Stakeholder feedback points to specific skills gaps, as well as skills shortages, in the Retrofit Co-ordinator and Retrofit Assessor role. These roles are key to maintaining the PAS compliance and quality of retrofit delivery, and so ultimately to achieving the desired outcomes of retrofit and to avoiding loss of consumer confidence. Parity Projects data suggests that there will be an additional (net) requirement of c400 Retrofit Coordinators across the North West. Retrofit Co-ordinators should have at least two year's work experience in construction or built environment. Hence, the focus should be on upskilling the existing workforce in these roles, and reskilling the existing construction workforce into these roles, at least as much as attracting new entrants.

The response

We propose projects to focus on:

1. Reskilling the existing workforce for retrofit design, installation and maintenance.
2. Creating a high-quality retrofit co-ordinator and retrofit assessor workforce.

1.5.2 Priority B: Growing the future workforce

The issues

Four of the five top occupations employed in the subsectors that deliver retrofit are in construction skilled trades. Pressures on the retrofit workforce mirror those in the construction workforce more broadly. Forecasts by the Institute of Employment Research at Warwick University are that there will be an annual demand of 3.3k in the construction skilled trades in the North West, with this being largely driven by replacement demand. Currently the number of people entering the construction workforce in the region through an apprenticeship or following an FE course for young people or adults is estimated as 3,200 (c2,490 apprenticeships⁵⁷, c500 from 16-19 FE and c 210 from 19+FE). A significant increase in volumes entering the sector could be achieved if rates of progression by both adults and young people into the industry from FE courses were to increase.⁵⁸

⁵⁶ <https://www.gov.uk/government/publications/heating-and-cooling-installer-study>

⁵⁷ This assumes an apprenticeship achievement rate in Construction in the NW of 53%, although analysis of the ESFA data cube (residency) suggests the actual achievement rate for the sector in the region may be lower than this.

⁵⁸ Pye Tait Consulting research for CITB (2020) provides learner, employer and provider views on barriers to progression: https://www.citb.co.uk/media/curmt35z/citb_fe_learners.pdf

Workforce modelling by Parity Projects suggests that future employment pressures arising from residential retrofit will be most acute in the ‘Plumbing, heat and air-conditioning installation’ subsector. Whilst productivity improvements in this subsector may go some way to offsetting these pressures (e.g. the labour time for ASHP installation is converging with that needed for a gas boiler), they are still likely to be significant, with too few people currently employed in this subsector across the North West, and particular pressures in the subregions of Cumbria and Cheshire and Warrington.

The response

We propose projects to focus on:

3. Informing and inspiring young people about future careers in the retrofit sector
4. Increasing the number of people progressing from FE into the construction industry.
5. Increasing the number of apprenticeships in plumbing and heating.

1.5.3 Priority C: Increasing diversity in the workforce

The issues

The construction sector in the North West lacks diversity. The levels of employment in the sector by both women and BAME people do not reflect the profile of the population. Gender disparities are particularly acute. This is compounded by a lack of gender and ethnic diversity in apprenticeship participation and a lack of gender diversity in Further Education construction programmes. These issues are not new and there is an extensive literature on them⁵⁹.

A key to addressing the problems that are anticipated in providing the future workforce that the retrofit subsectors will need will be diversification of the workforce. About half of the people that could work in the key subsectors are currently not represented in the sector; if not tackled, this limits the number of people available to work in retrofit in the North West, as well as depriving the sector of the potential benefits stemming from more diverse perspectives.⁶⁰ We need to find ways of opening the doors to retrofit employment for all parts of our population. To this end, we will invite partners to bring forward innovative and impactful project proposals to address these issues.

The response

We propose a project to focus on:

6. Support to retrofit employers in diversifying their workforce.

1.5.4 Priority D: Building demand-side capability

The issues

To meet net zero targets, additional suppliers will need to enter the retrofit market. Current suppliers point to skills challenges in engaging in the retrofit market which go beyond technical / trade skills. These include planning for business growth and the ability to engage effectively with public procurement rules. Current suppliers and new market entrants would benefit from a programme of business support.

Stakeholder consultation feedback points to underlying demand-side challenges that act as barriers to developing the retrofit workforce. The short-term and unpredictable nature of funded programmes can make it hard for market participants to plan for business growth and skills needs. As a result, outcomes are sub-optimal in terms of retrofit approaches chosen, and development of supply chain capacity. Lack of understanding and awareness around tender processes also deters some employers from engaging in the market. Better demand side planning and/or co-ordination of works would permit the supply side to more effectively with skills suppliers to plan volume of demand.

Finally, retrofit clients, including registered providers of social housing, have gaps in staff knowledge and skills that may be contributing to sub-optimal retrofit outcomes (in terms of choice of works, quality of work,

⁵⁹ See, for example, <https://www.businessleader.co.uk/why-is-the-construction-sector-so-male-dominated/> or https://www.equalityhumanrights.com/sites/default/files/research_report_23_race_equality_in_construction_industry.pdf

⁶⁰ Research relating to these questions includes Race in the Workplace: The McGregor-Smith Review (2017)

and/or residents' ability to use technologies to best effect). There are client-side skills needs to allow the demand side to support retrofit implementation and play their part in building a successful supply chain.

The response

We propose projects to focus on:

7. Business support for retrofit market entry.
8. Improving demand aggregation and visibility.
9. Retrofit client-side skills programme.

1.5.5 Priority E: Developing training capacity

The issues

There is a considerable variation in the volume of construction training being delivered within and between sub-regions and local authorities. A few colleges deliver disproportionately large numbers, while the majority deliver much lower volumes. Capacity of colleges in terms of facilities, course design and equipment is variable. While some are very well equipped with 'low carbon houses' or whole areas, others are only just starting.

Across the region, providers have challenge in recruiting and retaining construction staff, principally due to pay competition from industry. Many college staff require upskilling to deliver retrofit training effectively. The development of the pilot Test and Learn projects has highlighted gaps in revenue-funded capacity development, such as 'train the trainer' activities (see section 1.4.4).

To allow retrofit training to scale up to meet future demand, it will be necessary to develop training capacity and create it where it does not yet exist. Given existing successful models, collaborative approaches to create capacity at a sub-regional and regional level should be prioritised.

The response

We propose projects to focus on:

10. Collaboration to develop regional / sub-regional centres of excellence.
11. Retrofit content entitlement in construction training.
12. Retrofit education workforce development.

2. Section 2: Retrofit skills plan proposed implementation activities

2.1 Summary of proposed implementation activities

Section 2 of this plan provides more detail on the proposed implementation activities summarised in Figure 32. Section 2.4 provides more detail on these projects, along with an indicative split into two phases of activity, although it is recommended that decisions on phasing are kept under review subject to developments in the market and government policy.

Figure 32: North West Regional Retrofit Skills Plan Priorities and Projects

Priority	Project	Skills plan target outcomes (by 2027/28)	Direct outputs from skills plan projects contributing to target outcomes
A: Upskilling the existing workforce	1. Reskilling the existing workforce for retrofit design, installation and maintenance	i. 3,000 plumbers and heating engineers registered as MCS certified in the North West	i. 500 MCS qualifications delivered by Project 1.
	2. Creating a high-quality retrofit co-ordinator / assessor workforce	ii. 400 retrofit co-ordinator / assessor qualifications achieved in the North West	ii. 100 retrofit co-ordinator/assessor qualifications delivered by Project 2.
B: Growing the future workforce	3. Informing and inspiring young people about future careers in the retrofit sector	iii. Proportion of 16-19 construction learners progressing into employment in construction increases from 10% to 20%	iii. 250 learners p.a. delivered by Project 4.
	4. Increasing the number of people progressing from FE into the construction industry	iv. Apprenticeship achievements p.a. in construction in NW increases to 3,000	iv. 100 apprentices p.a. delivered by Project 5.
	5. Increasing the number of apprenticeships in plumbing and heating		
C: Increasing diversity in the workforce	6. Support to retrofit employers in diversifying their workforce	v. Proportion of starts on construction apprenticeships by females increases from 9% to 20%.	v/vi. 150 people from under-represented groups moving into employment delivered by Project 6
		vi. Proportion of starts on construction apprenticeships by BAME people represents share of population.	
D: Building capability on the demand side	7. Business support for retrofit market entry	vii. Increase in number of businesses in the North West registered with Trustmark (in relevant categories) for construction from 1,374 to 2,000, and number registered for renewable energy from 199 to 600.	vii. 100 businesses registered with Trustmark (in relevant categories) delivered via Project 7.
	8. Improving retrofit procurement, demand aggregation and visibility		
	9. Retrofit client-side skills programme		
E: Developing training capacity	10. Collaboration to develop regional / sub-regional centres of excellence promoting best practice and innovation	viii. Retrofit training by providers rated Ofsted 'Good' available throughout the North West.	viii. Five centres of excellence across the North West promoting best practice and innovation.
	11. Retrofit content entitlement in construction training		
	12. Retrofit education workforce development		

2.2 Plan governance and oversight

North West Net Zero Hub typically undertakes strategic net zero activity on behalf of the Local Enterprise Partnerships and Combined Authorities. In this structure, the Hub, as owner of the plan, would be well positioned to oversee further work and outputs identified in the plan. It is proposed that the Hub could administer any future funding provided by DESNZ to the North West region to carry out projects that support each of the five priorities. The Hub has experience in carrying out Expression of Interest (EOI) processes and can use the plan priorities and projects to brief relevant North West local authorities, colleges, independent training providers, and other relevant parties who can contribute to the identified projects.

In this scenario, the Hub should support monitoring and reporting of KPIs as identified. It should also lead on an evaluation programme – which it is suggested should be conducted annually. This would also require the NWNZH to allocate resource to oversee this project and monitor outcomes.

2.3 Funding requirements

In addressing the five priorities through the activities outlined in the plan, it has been identified that some activities can be undertaken through existing sources of funding. However, there are gaps in funding which will also need to be addressed to deliver projects to address each of the five priorities. Figure 33 sets out a high-level analysis of funding availability and funding gaps, while recognising that in practice each funding source has its own processes and eligibility requirements to determine funding allocations.

If additional funding is available to support the delivery of this plan, the Hub's preferred mechanism would be to have access to an annual fund. North West subregions could then bid to the Hub via an EOI, with projects selected that to address a specific priority or KPI. Example costings of projects are outlined in the tables below, but further evidence based on individual project need would be desired at future stages.

Figure 33: Potential sources of project funding

Project	Potential existing sources of funding	Gaps in existing funding
1. Reskilling the existing workforce for retrofit design, installation and maintenance	DfE Adult Education Budget / Skills Bootcamp funding for training delivery. DESNZ Home Decarbonisation Skills Training competition / Heat Network Competition. CITB support and grants, including its Industry Impact Fund.	Top-up ('gap') funding for learners ineligible for full funding and/or risk sharing with providers. Programme development.
2. Creating a high-quality retrofit co-ordinator / assessor workforce	DfE Adult Education Budget / Skills Bootcamp funding for training delivery. DESNZ Home Decarbonisation Skills Training competition.	Top-up ('gap') funding for learners ineligible for full funding and/or risk sharing with providers.
3. Informing and inspiring young people about future careers in the retrofit sector	North West Careers Hub budgets. Possible grant funding e.g. CITB; manufacturer sponsorship.	Resource development. Project co-ordination.
4. Increasing the number of people progressing from FE into the construction industry	DfE 16-19 / Adult Education Budget / Skills Bootcamp funding for training delivery. Possible CITB Into Work Grants for work experience, 12 week placements.	Outcome-based funding to providers for partnership development, employer engagement and learner progression (particularly via apprenticeships).
5. Increasing the number of apprenticeships in plumbing and heating	Apprenticeship Levy / apprenticeship budget funding for training delivery. Public contract social value requirements.	Wage gap funding for 'over training'.
6. Support to retrofit employers in diversifying their workforce	Possibly CITB Industry Impact Fund. DfE Adult Education Budget / Skills Bootcamp funding for training delivery.	Project co-ordination and delivery. Funds to address learner barriers.
7. Business support for retrofit market entry	Adult Education Budget / Skills Bootcamp funding for training delivery. Department for Business & Trade funding for business support.	Project co-ordination.
8. Improving retrofit procurement, demand aggregation and visibility	None identified.	Project co-ordination.
9. Retrofit client-side skills programme	Adult Education Budget / DESNZ Home Decarbonisation Skills Training funding for training delivery. Community Learning funding.	Project co-ordination. Course development.
10. Collaboration to develop regional / sub-regional centres of excellence promoting best practice and innovation	LSIF capital funding. DfE Skills Capital programmes.	Capital funding for facilities and equipment (if not met from existing sources). Staff development. Course development.
11. Retrofit content entitlement in construction training	16-19 and Adult Education Budget funding for training delivery. LSIF capital funding.	Capital funding for facilities and equipment (if not met from existing sources). Staff development.
12. Retrofit education workforce development	Possible manufacturer sponsorship.	Staff development. Project co-ordination and delivery. Support for colleges with wage costs.

2.4 Details of proposed projects

Project 1. Reskilling the existing workforce for retrofit design, installation and maintenance		
Rationale		
Delivery of retrofit installation targets, and the subsequent maintenance of equipment, will depend on reskilling the existing construction workforce as well as adding to it. While many of the relevant learning aims (required to become MCS certified) are fundable, uptake of funded qualifications is currently negligible. However, IFF research suggests that approximately 60% of the heating and cooling installer workforce could be influenced to upskill to install heat pumps. ⁶¹		
Project description		
Objectives	Activities	Anticipated project outputs / KPIs
<ul style="list-style-type: none"> Increase the number and proportion of the construction workforce in the North West with MCS-certified qualifications to carry out retrofit design, installation and maintenance. 	<ul style="list-style-type: none"> Funding for skills providers, notably colleges, to develop and design short courses leading to qualifications in design, installation and maintenance of ASHPs/GSHPs and/or photovoltaic systems. Marketing and engagement activities targeted at employers and sole traders to raise awareness of training available. Gap funding to allow courses to be offered free to learners regardless of prior qualification level/other flexible eligibility. Risk sharing with skills providers on pilot cohorts to test innovative approaches. Work with key purchasers / procurers to set targets within procurement processes for workforce reskilling, and putting in place a process to monitor them. 	<ul style="list-style-type: none"> Number of employers engaged in developing courses. Number of courses made available. Gap funding /top up for full funding for up to 500 learners in addition to those funded via mainstream funding routes. Increase in number of qualified/skilled retrofit workers in the region
Timeline	Delivery partners	Inter-dependencies
<ul style="list-style-type: none"> Phase 2 	<ul style="list-style-type: none"> FE colleges and ITPs (with sub-regional collaboration and innovative approaches to be encouraged). 	<ul style="list-style-type: none"> Uptake of courses is ultimately dependent on contractors seeing the value to their businesses in reskilling. Hence supporting measures around market entry (including projects 7 and 8) are key.
Costs and benefits		
Costs and funding	Benefits	Risks
<p>The majority of training costs should be met by mainstream adult skills budgets.</p> <p>Costs of approx. £250k anticipated for course development.</p> <p>Costs of approx. £1k per learner (£500k for 500 learners) anticipated for gap funding and risk sharing. It is anticipated that these would be allocated via an EOI process.</p>	<ul style="list-style-type: none"> Create a critical mass of qualified installation and maintenance contractors. Generate confidence amongst lead contractors that they can grow their retrofit business and meet increased demand. Test innovative approaches to delivery of retrofit and green skills qualifications. 	<ul style="list-style-type: none"> Insufficient take-up of courses due to lack of employer/learner interest. Insufficient interest from colleges / skills providers in participating due to previous experiences of lack of demand. Staffing challenges in colleges and training providers.

⁶¹ <https://www.gov.uk/government/publications/heating-and-cooling-installer-study>

Project 2. Creating a high-quality retrofit co-ordinator and assessor workforce		
Rationale		
<p>A variety of respondents have reported concerns with the quality standards for retrofit work. One estimate was that as few as 20% of all retrofits were to PAS2035 standards. This is a barrier to scaling retrofit and a potential risk to market and consumer confidence. These roles are likely to be filled by a mixture of reskilling of staff already working in the sector and training new entrants. Retrofit co-ordinators in particular should as a general rule have at least two years' work experience in construction or built environment; hence reskilling of people currently or previously working in the sector will be a key factor in growing the talent pipeline.</p>		
Project description		
Objectives <ul style="list-style-type: none"> Underpin quality of retrofit delivery by ensuring adequate supply of Retrofit co-ordinators who have a pivotal role in ensuring QA for homeowners and clients by managing projects in compliance with the PAS2035 standard Ensure a pipeline of qualified Retrofit Assessors with the PAS2035 standard Raise awareness on the routes into these occupations 	Activities <ul style="list-style-type: none"> Retrofit Co-ordinator to PAS2035 standards (Level 5 Diploma) Retrofit Assessor to PAS2035 standards (Level 4) Raise awareness of Co-ordinator and Assessor roles and routes into these occupations – something that is not well-understood across all stakeholders 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> Increased number of Retrofit Co-ordinators trained to PAS2035 standards Level 5 Diploma, including fully funding 50 learners. Increased number of Retrofit Assessors trained to PAS2035 standards Level 4, including fully funding 50 learners. Develop a shared understanding of progression pathways for Retrofit Co-ordinator and Assessor roles.
Timeline <ul style="list-style-type: none"> Phase 2 	Delivery partners <ul style="list-style-type: none"> Hopwood Hall Retrofit Academy Training Hub Other College provision ITPs Awareness among Industry, industry bodies, Colleges and HEIs and Careers advice organisations 	Inter-dependencies <ul style="list-style-type: none"> Progression from existing Domestic Energy Assessors a key route into Retrofit Assessor course Las and RPs need to become more intelligent purchasers of retrofit works
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> Pump prime Retrofit Co-ordinator training with £800 per learning contribution to fully fund Retrofit Academy, or equivalent, course that currently benefits from £1,250 DESNZ skills funding per learner. 50 learners @ £40k. Delivery at NW training hub at Hopwood Hall, or equivalent. Adult education budget or Skills Bootcamp funding to support Retrofit Assessor course provision fully funded for unemployed or self-employed otherwise 10% costs. Pump prime fully funded for up to 50 Retrofit Assessors at a cost of £25k. 	Benefits <ul style="list-style-type: none"> Promote quality retrofit work that achieves intended benefits for fuel usage and lower carbon emissions. Ensure that the availability of Retrofit Co-ordinators and Assessors do not constrain retrofit installations. 	Risks <ul style="list-style-type: none"> Limited awareness of progression routes into these roles among employers, RPs, careers advisors and some providers. Competition between courses of varying size and quality. Staffing challenges in colleges and training providers.

Project 3. Informing and inspiring young people about future careers in the retrofit sector

Rationale		
<p>It will be necessary to attract more young people into the retrofit sector, and green jobs more broadly, in order to cover replacement demand within the construction workforce, meet demand for higher skills and promote greater diversity in the workforce. While the environment is a key concern for young people, Public First/Prince's Trust research shows that this does not automatically translate into an interest in green jobs. Young people have a very limited understanding of Net Zero and green jobs, and often do not associate green jobs with the factors that drive their career decision.⁶² Increasing the level of understanding and interest of green jobs amongst young people is important to create a pipeline of young people interested in entering the retrofit workforce.</p>		
Project description		
<p>Objectives</p> <ul style="list-style-type: none"> • Improve levels of understanding amongst young people in the North West of the range of jobs available in, skills required, and routes on offer to enter, the retrofit sector and green jobs more broadly. • Improve teachers' and careers advisors' understanding of and access to information relating to retrofit and green jobs, to allow them to better support children and young people. • Increase engagement of retrofit employers in activities designed to raise the profile of the sector amongst young people. 	<p>Activities</p> <ul style="list-style-type: none"> • Work with Careers & Enterprise Company and NW Careers Hubs (and other existing initiatives) to promote increased participation by retrofit employers (including manufacturers and those responsible for installation and maintenance) in outreach activities co-ordinated through Careers Hubs. • Identify colleges / ITPs able to showcase career opportunities (likely those in project 10) • Engage with retrofit employers to encourage them to participate in work experience, work placements and educator insight / teacher encounter events, and signpost them into Careers Hubs. • Develop school careers resources relating to retrofit and suitable for addressing Gatsby Benchmark 4. Distribute and promote via Careers Hubs, NHHZ and other partners. 	<p>Anticipated project outputs / KPIs</p> <ul style="list-style-type: none"> • Increased number of retrofit employers working with North West Careers Hubs. • Usage and user feedback on schools careers resources.
<p>Timeline</p> <ul style="list-style-type: none"> • Phase 1 	<p>Delivery partners</p> <ul style="list-style-type: none"> • North West Careers Hubs and other existing initiatives (e.g. Cheshire and Warrington Pledge Partnership) • Industry / employer representatives. • Key framework partners (as route to employer representatives). • Trade bodies including CITB. • Secondary schools and colleges 	<p>Inter-dependencies</p> <ul style="list-style-type: none"> • This project is closely related to, and should facilitate, project 6.
Costs and benefits		
<p>Costs and funding</p> <p>Project will draw on existing resource within careers hubs, schools and industry. Funding will be required for co-ordination, approx. £50-60k p.a. to employ a project co-ordinator. Resource development budget anticipated at £80k. Opportunities to seek grant funding, e.g. from CITB, should be explored.</p>	<p>Benefits</p> <ul style="list-style-type: none"> • Increase in the number of young people in the North West aware of options for careers in retrofit. • Increase in the number of young people entering the construction and/or retrofit sectors after leaving full-time education. 	<p>Risks</p> <ul style="list-style-type: none"> • Unable to engage industry / employer representatives in careers events • Risk of complexity / saturation if engagement with employers is duplicated.

⁶² <https://www.publicfirst.co.uk/wp-content/uploads/2023/11/Generation-Green-Jobs-Report-Nov-2023-1.pdf>

Project 4. Increasing the number of people progressing from FE into the construction industry

Rationale		
<p>In order to meet the levels of future demand for labour in construction, particularly in skilled trades, the number of people entering the industry from Further Education and apprenticeships needs to increase. There are large numbers of learners participating in Level 2+ construction programmes in FE but currently only 10-15% of young people and adults on such provision subsequently secure employment in the industry. If this rate of progression increased to 20-30%, there should be sufficient entrants into the sector in the region to meet the demand for labour which will arise largely as a result of replacement demand (e.g. because of retirements).</p>		
Project description		
<p>Objectives</p> <ul style="list-style-type: none"> Develop and cascade good practice in FE to secure higher rates of progression into the construction industry from construction FE programmes. 	<p>Activities</p> <ul style="list-style-type: none"> Sub-regions will be invited to develop (collaborative) projects to strengthen the partnership between colleges and retrofit employers to secure higher levels of entry into the industry (including apprenticeships and Skills Bootcamps) from students that achieve Level 2+ construction qualifications. Projects will need to demonstrate how the successful approach to be developed could be continued without ongoing call on additional revenue funding after Year 2. Projects will need to demonstrate how they will be evaluated and the learning from this embedded across the wider sector. 	<p>Anticipated project outputs / KPIs</p> <p>Projects should demonstrate:</p> <ul style="list-style-type: none"> 50 learners per project p.a. secure employment in the industry. Higher rates of learner progression into the industry compared to the 2022/23 baseline Strengthened partnerships between colleges and retrofit employers
<p>Timeline</p> <ul style="list-style-type: none"> Phase 1 	<p>Delivery partners</p> <ul style="list-style-type: none"> Sub-regional stakeholders Colleges/college consortia Retrofit employers Social housing providers and key procurement frameworks Partnering networks (e.g. run by manufacturers) supporting new market entrants. 	<p>Inter-dependencies</p> <p>Employers in the current retrofit supply chain will be targeted to participate and benefit from the project.</p>
Costs and benefits		
<p>Costs and funding</p> <ul style="list-style-type: none"> The cost of learning will be met from College budgets (c£5k per 16-19 learner; c£3k per 19+ learner). The cost of additional learner support (where required) will be met from college budgets Project funding will be focussed on partnership development; employer engagement; and learner progression. Each sub-regional project will have an annual revenue cost of £35-£50k 	<p>Benefits</p> <ul style="list-style-type: none"> Each sub-regional project will deliver c50 additional learners into employment in retrofit subsectors. Rates of progression from FE to the construction industry will increase significantly, thereby easing the pressure for labour that is expected to be generated (particularly from replacement demand). Learning from the initial projects will be cascaded and embedded in the wider college sector. 	<p>Risks</p> <ul style="list-style-type: none"> Inability to align supply and demand for labour. Insufficient learner interest in participating into the construction sector.

Project 5. Increasing the number of apprenticeships in plumbing and heating		
Rationale		
There are insufficient numbers of apprentices currently achieving standards in construction to meet the forecast levels of replacement demand in the industry. In addition, significant growth demand for labour is anticipated in the 'Plumbing, heat and air-conditioning' subsector. Because the sector will need to deliver a sharp upward trajectory in the volume of retrofit activity in the future, there is insufficient capacity within the industry to support the volume of apprenticeships required now. Additional action is required to address this market failure, by boosting apprenticeship volumes now to meet the anticipated demand for skilled labour generated by a scaled up demand for domestic retrofit.		
Project description		
Objectives <p>The objective of the programme is to 'over-train' apprentice plumbers and heat engineers. This will help create the capacity required in the industry as demand for the domestic installation of Air Source Heat Pumps increases.</p> <p>'Over-training' involves employers playing a role in the training of more apprentices than they themselves require to meet their own anticipated business needs, with the extra apprentices being employed by other firms in their sector and/or supply chain.⁶³</p>	Activities <ul style="list-style-type: none"> Proposals will be sought from organisations in each sub-region. These organisations should demonstrate strong connection with current/ future publicly-funded retrofit programmes (e.g. organisations with a capacity for in-house delivery/DLOs that can operate on housing stock beyond that of their sponsor organisation; or third parties in the supply chain). It is expected that the bulk of the work undertaken by apprentices will be publicly-funded domestic retrofit. The project will gap fund apprenticeship/management salaries not covered by revenue from retrofit contracts. Priority should be given to heat pump / renewable-specific standards and pathways. 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> Each project should 'over-train' 20 apprentices p.a. with a focus on the 'Plumbing, heat and air-conditioning' subsector. It is expected that, following achievement of the relevant apprenticeship Standard, 90% of achievers will go into work as skilled labour in the retrofit sector.
Timeline <ul style="list-style-type: none"> Phase 1 	Delivery partners <p>Organisations with an in-house/DLO function or other third parties (e.g. Community Interest Companies) that can operate in the wider supply chain of publicly-funded retrofit programmes and act as the employer for significant volumes of retrofit apprentices. National Home Decarbonisation Group. Framework providers such as ProcurePlus.</p>	Inter-dependencies <p>It is assumed that the work required for apprentices will be generated from publicly-funded retrofit programmes and that the delivery partner will be in a position to secure such work at sufficient volumes.</p> <p>Access to relevant specialist facilities (see project 10)</p>
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> The cost of training will be met from the apprenticeship levy/apprenticeship budgets (e.g. a Level 3 Low Carbon Heating Technician is c£22k). The cost of salaries will be met through the delivery of (publicly funded) retrofit contracts. Project funding will be focussed on gap funding apprentice/management wages that cannot be covered by retrofit contracts. Each sub-regional project is anticipated to cost in the region of £100k pa. additional investment 	Benefits <p>In a sector where the volume of activity is expected to increase sharply from a low base, an 'over-training' approach is necessary to ensure there is sufficient supply of skilled labour as demand for it ramps up.</p>	Risks <p>The agreed provider of apprenticeship over training fails to secure sufficient volume of retrofit contracts to support the wage and management costs for the apprenticeship programme.</p>

⁶³ <https://www.gatsby.org.uk/uploads/education/reports/pdf/otreportweb.pdf>

Project 6. Support to retrofit employers in diversifying their workforce

Rationale		
There are not enough skilled people to do the work required by retrofit, while there is also a lack of diversity in the construction/retrofit sector. This project is about creating a centralised support system to support employers, participants and training providers to recruit, join and train the sector. By creating a project that sits in the centre of the skills plan, the resource can effectively communicate, broker and recruit for the retrofit programme.		
Project description:		
Objectives <ul style="list-style-type: none"> • Create clear entry points using a centralised support system for recruitment. • Provide recruitment support for employers and people looking to join the workforce. • Effectively communicate the opportunity as broadly as possible to reach a wide audience • Create pathways and communications for career changers. • Ensure that there is representation of priority groups in associated comms • Develop and manage an employer engagement programme to bring them into the pool 	Activities <ul style="list-style-type: none"> • A cohesive campaign that is run on behalf of employers to attract talent. • Recruitment framework that links into existing providers to make referrals in and also provides upskilling where required • The development of a centralised (and localised) talent pool. • Encourage retrofit / construction employers to engage with Fair Employment Charter • Engagement with external partnership organisations to support activity (including but not limited to local disability groups, Women in Construction networks, etc..) • Promote Skills Bootcamps as a route into the retrofit sector, including non-trade / semi-skilled roles. 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> • 2,000 people join the talent pool – of whom target 600 (30%) identify as having a protected characteristic that is underrepresented in the sector. • 500 people (25%) move into employment – of whom target 150 (30%) identify as having a protected characteristic that is underrepresented in the sector. • 500 employers engaged • 500 people (25%) upskilled with a local training provider • Learning and best practice captured through programme evaluation and disseminated to employers and voluntary sector organisations working to close employment gaps. • Impact evaluation pointing to, e.g. the increase in awareness of the sector, how many would consider a job in the sector.
Timeline <ul style="list-style-type: none"> • Phase 1 	Delivery partners <ul style="list-style-type: none"> • CITB • Employers (including public sector employers of retrofit labour) • Colleges and training providers • Careers Hubs and National Careers Service. 	Inter-dependencies Projects 4, 5 and 7
Costs and benefits		
Costs and funding Ideally, the project would be funded for three years allowing time for the pilot to develop relationships and move towards a self-sustaining state. Cost estimated in region of £500k for 3 years – then introduce a recruitment fee to become self-sustaining. Funding should be made available fund otherwise ineligible learners and support potential workers with barriers to learning and accessing careers in the sector (e.g. childcare, transport, additional learning support etc.).	Benefits <ul style="list-style-type: none"> • Clearer routes in and better understanding of roles available leading to a highly skilled workforce that can meet the targets • Attract underrepresented individuals to the construction and retrofit sector by opening career routes and networks. • Pupils and parents to better understand the range of jobs available, and the link between learning and work. • Challenging stereotypes and broadening horizons for pupils. • Children inspired by role models in construction and infrastructure that share their background. • Learning for employers on building relationships with schools. 	Risks <ul style="list-style-type: none"> • Ability to source funding. • Ability to develop self-sustaining model. • Stakeholder / organisational complexity.

Project 7. Business support for retrofit market entry		
Rationale		
Current suppliers and new market entrants would benefit from a programme of business support. The programme would help to improve the resilience of organisations, such that they could grow and play a bigger role in retrofit. Equally, new market entrants require a broader set of business skills to enter the retrofit market. There are significant opportunities for these organisations to participate in the market. They would benefit from a programme of support that would develop sales & marketing skills, business finance and growth strategies, workforce development plans, obtaining relevant accreditations (e.g. Trustmark) and putting in place the organisational structures needed to respond to public sector procurement processes.		
Project description		
Objectives Develop the capability of organisations to grow and meet market demand for retrofit projects. Deliver business support programmes which are tailored for the retrofit market. Specifically in the areas of: <ul style="list-style-type: none"> • Sales & marketing: How to engage with consumers to entice them to invest in undertaking retrofit works. Demonstrating cost/benefit, environmental impact etc.. • Finance: How to finance business growth, working with financiers and banks to ensure investment capital is available to increase the scale of the organisations. • Workforce: How to expand the skilled workforce of the business by adopting workforce development planning. • Public procurement: How to put the necessary organisational structures in place to respond to public sector procurement processes. 	Activities <ul style="list-style-type: none"> • A (or a series of) programmes available to suppliers & installers of retrofit building products on ‘how to grow their business’. Including aspects of sales/finance/building capacity with additional workforces. • Liaison and relationship building with FE colleges and ITPs to allow signposting to relevant offers. • Support to businesses in acquiring relevant accreditations, e.g. Trustmark. • Mentoring and coaching of businesses to build confidence in undertaking steps to achieve growth and expand capacity. • Brokerage services to introduce skilled business support organisations to assist retrofit organisations with contextualised business support. 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> • Support to 100 businesses in registering with Trustmark for retrofit-related activities. • Increased capacity in market stimulation activity to work with homeowners and the public sector to assess requirements and implement retrofit solutions. • Increased capacity in the construction market to meet demand. Increase in investment capital in the supply side. • Reduction in sub-contracting to meet client demand. • Increase in volumes of apprenticeship and construction related trade occupation training (Skills Bootcamps, AEB etc.).
Timeline <ul style="list-style-type: none"> • Phase 2 	Delivery partners <ul style="list-style-type: none"> • Business support providers, such as the Growth Hub • Further Education Colleges • Higher Education Institutions • Private training providers (public and privately funded) • Business Finance organisations 	Inter-dependencies <ul style="list-style-type: none"> • Business support providers’ willingness to focus business support funds at this agenda. • Public & private training providers, using their funds to create skills which support the agenda of business support • Combined Authorities and LEPs to encourage greater level of retrofit business training with their providers.
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> • This project requires co-ordination to take place. It does not require considerable investment. Estimated costs of co-ordination role £60k p.a. • Current Business Support funds can be focused on this agenda, such that SMEs receive support. Where future funding for such programmes is uncertain, it may need to be extended. AEB, Business Start Programmes exist now, and would only require contextualisation. 	Benefits <ul style="list-style-type: none"> • Increased capacity in the supply side to meet and stimulate demand for retrofit activity. • More resilient organisations to meet retrofit demand (public & private works) • Increased volumes of apprenticeship opportunities for young people 	Risks <ul style="list-style-type: none"> • Inactivity maintains the status quo. • Lack of intervention reduces the chance of increasing capacity, coordinating demand and improving the quality of retrofit specifications and projects. • Training suppliers lack motivation to engage in the market. • The supply side does not engage with business support provision because of perception of low quality, low value or low impact.

Project 8. Improving retrofit procurement, demand aggregation and visibility		
Rationale		
<p>There are a series of public sector retrofit investments taking place across the public sector (education, health, local authorities, housing). These are expected to grow in the coming years. If a greater level of demand-side aggregation took place, the supply side would be better able to commit to medium term investments in workforce development strategies. A greater level of visibility in upcoming works would develop confidence in the supply side to invest in workforce development planning and action. The contribution of public sector procurement to social value objectives, including development of the workforce and SME supply chain, should also be maximised.</p>		
Project description		
Objectives <ul style="list-style-type: none"> To co-ordinate public investments in retrofit, such that contractors can commit to workforce development strategies. Plan public sector investments of 'retrofit projects', sequencing activity such that labour can be organised by occupation. Increase the commitment to apprenticeship learning, levered from public sector investment in retrofit programmes. 	Activities <ul style="list-style-type: none"> Leadership in geographies to co-ordinate key public sector procurers of retrofit projects, such as; local authorities, housing, NHS, School. With the expressed aim of supporting suppliers and installers to plan their workforce development strategies. Create greater connections between contractors and skills suppliers to respond to the skills requirements of the aggregated demand. Develop guidance for public sector purchasers as to how to make best use of social value clauses to support development of the workforce and SME supply chain (including but not limited to Skills Bootcamps, apprenticeships etc) 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> More consistent set of works orders for contractors, such that they can plan workforce development requirements. Increase in volumes of apprenticeship and household related trade occupation training (Skills Bootcamps, AEB etc.) Increase in joint purchasing activity across the public sector. Better co-ordination of work packages purchased through frameworks. Framework providers taking a more proactive approach to identifying demand.
Timeline <ul style="list-style-type: none"> Phase 1 	Delivery partners <ul style="list-style-type: none"> Procurement providers, such as Procure Plus, Fusion 21 (and others) Business support providers, such as The Growth Hub Further Education Colleges Higher Education Institutions Private training providers (public and privately funded) 	Inter-dependencies <ul style="list-style-type: none"> Engagement and support from existing aggregators to assist with demand and co-ordination management. Business support providers' willingness to support organisations with workforce development strategies. Public & private training providers, responding to the demand for apprenticeship training. Greater levels of collaboration in sub-regions and across the regions. (Public sector buyers & procurers)
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> Existing infrastructure is available to undertake such work. It requires a greater level of engagement from the public sector to commit to using specialist framework providers such as Procure Plus and Fusion 21. GMCA is developing a retrofit framework that it will administer for the whole North West, designed for social housing providers' needs. 	Benefits <ul style="list-style-type: none"> More resilient organisations to meet retrofit demand. Increased volumes of apprenticeship opportunities for young people Better coordination of procurement, such that installers can undertake more impactful workforce development plans Uses current infrastructure to respond to a new market opportunity. 	Risks <ul style="list-style-type: none"> Inactivity maintains the status quo. Lack of intervention reduces the chance of increasing capacity, coordinating demand and improving the quality of retrofit specifications and projects. Training suppliers lack the motivation to engage in the market.

Project 9. Retrofit client-side skills programme		
Rationale		
<p>Social housing providers and local authorities appear to have gaps in staff knowledge and skills that may be contributing to sub-optimal retrofit outcomes. Retrofit methods and technologies are relatively unfamiliar to some RPs and Las, certainly when compared with more established property renovations. The need relates widely to knowledge about retrofit at all levels of the organisation – for RPs this ranges from tenant liaison officers being able to advise residents about retrofit and how to get the best from it and customer service staff being able to handle tenant enquiries about retrofit, through to procurement officers understanding the market, project managers reliant on the contractor for expertise, and up to senior managers. Las that manage properties in-house share similar issues, in addition to gaps in knowledge that affect their role developing and implementing local retrofit strategies. There is also a skills need that relates to RPs’ Direct Labour Organisation (DLO) workforces (and within LA housing departments where they manage properties directly), who need to be able to service and maintain new technologies. RPs recognise these gaps in knowledge and skills exist, a minority are starting to take steps to address it, but there appears to be an opportunity to expand the scale and scope of this activity.</p>		
Project description		
Objectives <ul style="list-style-type: none"> To accelerate the development of client-side knowledge about retrofit within customer-facing and senior administrative staff at RPs and Las To accelerate the development of key retrofit skills among RPs’ DLO employees (and within Las where they directly manage properties), to ensure proper maintenance and management of retrofitted homes. 	Activities <ul style="list-style-type: none"> Work across RPs and Las (potentially via sub-regional networks) to clarify the retrofit knowledge and skill requirement of each key occupation Work with colleges/ITPs to develop and deliver learning programmes that respond to this need, utilising available funding Establish peer to peer networks between RPs and Las to share learning and common approaches to skills and knowledge gaps. 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> Number of RPs and LAs engaged in the programme Number of staff starting, broken down by occupation and employer Number of staff completing training, by occupation and employer
Timeline <ul style="list-style-type: none"> Phase 2 	Delivery partners <ul style="list-style-type: none"> FE colleges and selected ITPs (supported by sub-regional collaboration between providers) RPs and Las (notably existing networks) 	Inter-dependencies <ul style="list-style-type: none"> Project 1 and Project 8.
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> Costs for upskilling repair and maintenance staff should be met primarily via AEB or DESNZ short course funding. New recruits to key repair and maintenance roles should access apprenticeships with retrofit content incorporated. Programmes focused on just delivering knowledge might be AEB/Community Learning funded. Co-funding with employers could be considered for training where mainstream funding streams are inappropriate. Note that LSIF revenue budgets have only been available in 2023/24 	Benefits <ul style="list-style-type: none"> More knowledgeable, more skilled client-side which is better able to procure, manage, quality assure and maintain high quality retrofit works to social housing. Fewer sub-optimal retrofit works undertaken, less remedial work required, higher tenant satisfaction Better VFM from better designed and implemented retrofit programmes. More residents making better use of retrofitted homes, reducing energy bills and emissions. 	Risks <ul style="list-style-type: none"> Each RP and LA wants its own bespoke programme of learning. Stop/start nature of the market means that employer interest is only present when DESNZ funded programmes are available. Insufficient take-up of courses due to weak staff/employer interest. Lack of engagement from colleges and ITPs, due to limitations in facilities and own capacity to train/educate.

Project 10. Collaboration to develop regional / sub-regional centres of excellence, promoting best practice and innovation

Rationale		
<p>There are some examples of very good practice in retrofit / green skills education in the North West. Sharing best practice and coordinating resource into sub-regional centres of excellence, promoting innovative approaches to retrofit, represents an opportunity to expand and ensure more learners and businesses can benefit from that good practice. Collaborative approaches within the college networks should be encouraged (and existing collaborations built upon) in developing a coherent sub-regional and regional offer. It is envisaged that these centres of excellence would also function as a focus for innovation and technological development in retrofit technologies.</p>		
Project description		
<p>Objectives</p> <ul style="list-style-type: none"> Establish centres of excellence in retrofit and green skills providing a coherent offer around the region. Where Green Skills/Retrofit Training Hubs exist or are in the process of being developed, these should be strengthened rather than duplicated. Ensure collaboration between providers and with other parties e.g. manufacturers, to make best use of resources and know-how, including use of digital technologies in teaching. Develop and implement transferable best practice in providers across region (relating to retrofit and to the fundamentals of the associated core trades). Raise awareness of innovative approaches, new technologies and best practices such that the retrofit sector as a whole benefits. 	<p>Activities</p> <ul style="list-style-type: none"> Establish (via a bidding process) hubs in each sub-region to be responsible for: setting the standard for facilities, establishing the Retrofit curriculum, training/developing other providers staff and delivering high volumes of energy assessor and Retrofit coordinator training. Collaborative approaches between multiple colleges should be promoted. Create a regional network of sub-regional centres of excellence with the NWNZH, to coordinate the Retrofit offer across the North West. Work with local providers to assess existing areas of strength and examples of quality provision. 	<p>Anticipated project outputs / KPIs</p> <ul style="list-style-type: none"> Five centres of excellence established by 2025/26. Robust partnerships and systems in place to develop provision across region. Knowledge transfer and integration of best practice into wider provider base. Engagement with manufacturers and employers. Delivery of training and qualifications putting workforce on trajectory to hit retrofit targets.
<p>Timeline</p> <ul style="list-style-type: none"> Phase 1 	<p>Delivery partners</p> <ul style="list-style-type: none"> Colleges ITPs Universities Manufacturers and key installation employers Net Zero Hub 	<p>Inter-dependencies</p> <ul style="list-style-type: none"> Projects 11 and 12.
Costs and benefits		
<p>Costs and funding</p> <ul style="list-style-type: none"> Sources of capital funding exist, e.g. LSIF, which could be directed in support of this project; however, access to these is currently inconsistent. Manufacturer / employer support should also be sought. 	<p>Benefits</p> <ul style="list-style-type: none"> Expanded and consistent output from providers across the region Improved quality of provision supporting improvement in quality and performance in industry 	<p>Risks</p> <ul style="list-style-type: none"> Staffing challenges in colleges and training providers. Ensuring best practice is transferable.

Project 11. Retrofit content entitlement in construction training		
Rationale		
Where construction / trades related training is occurring without including relevant retrofit-related content, this represents a clear missed opportunity to future-proof the workforce. Making retrofit content consistent offers an opportunity to support the development of retrofit-related skills in the future workforce.		
Project description		
Objectives <ul style="list-style-type: none"> Ensure all colleges equipped for retrofit in relevant trades as above, and make retrofit content (developed as above) and entitlement for all learners in related core trades, perhaps with additional funding incentive. This should include related aspects such as the digital and administrative skills required for effective implementation of retrofit technologies. Increase the exposure of retrofit skillsets across related sectoral learning aims. 	Activities <ul style="list-style-type: none"> Establish retrofit curriculum as set out above. Need to work with existing provider base to incentivise and enable wider retrofit provision. Overcoming primary barriers relating to broader access to educators, funding for equipment and stimulating consistent demand in some cases. 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> Enhanced curriculum entitlement in place by 2026/27. Developed quality standard across the sector (especially as some view that only 20% of installations up to quality standard) Apprentices and full-time students in all relevant trades exit with the necessary skills and knowledge
Timeline <ul style="list-style-type: none"> Phase 2 	Delivery partners <ul style="list-style-type: none"> Colleges ITPs Universities Business Net Zero Hub 	Inter-dependencies <ul style="list-style-type: none"> Projects 10 and 12.
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> Costs of course / qualification delivery should be met primarily through mainstream funding routes. Funding to support / incentivise colleges and skills providers in course redevelopment may be required to accelerate progress. Capital funding may be required if not covered by project 10 above. 	Benefits <ul style="list-style-type: none"> Will go some way to futureproofing future industry labour supply through ensuring cross-industrial compatibility is guaranteed. Acting in the interests of businesses and the tradespeople themselves by ensuring adaptation to the future green economy is prefixed via skills system augmentation. 	Risks <ul style="list-style-type: none"> Ensuring adequate buy-in from key partners Staffing challenges in colleges and training providers.

Project 12. Retrofit education workforce development		
Rationale		
It will be necessary to increase the number and capability of educators within the provider base in order to ensure skills demand can be fully met. There are widely-recognised issues around attracting suitable, industry-experienced educators to the sector. Innovation is required to create an offer to attract appropriately skilled and experienced staff, and to develop those who are already in the education workforce.		
Project description		
Objectives <ul style="list-style-type: none"> • Use sub-regional hubs as above to deliver staff training • Need to develop broader educator talent with skills base, particularly outside of key population centres • Develop system that will allow for a flow tradespeople to move into (or be seconded to) educating as a career change option. 	Activities <ul style="list-style-type: none"> • Training staff from other colleges, focusing on specific specialisms • Attracting industry veterans into an 'off-the-tools' career change, including through strategic partnerships between colleges and employers • Test and Learn pilots linked to the Taurus Foundation 	Anticipated project outputs / KPIs <ul style="list-style-type: none"> • Increase in the numbers of suitably experienced and competent educators able to deliver retrofit skills in the North West. • Steady pipeline of industry-experienced talent moving into the education sector • Resolves key issues around experience and retention of skills
Timeline <ul style="list-style-type: none"> • Phase 1 	Delivery partners <ul style="list-style-type: none"> • Colleges • ITPs • Universities • Net Zero Hub • Business • Taurus Foundation 	Inter-dependencies <ul style="list-style-type: none"> • Projects 10 and 11.
Costs and benefits		
Costs and funding <ul style="list-style-type: none"> • Funding for staff development, to be administered at a sub-regional level. • Transitional funding for colleges facing recruitment challenges to support wage costs. • Co-ordination will be required for approaches to attract career changers. 	Benefits <ul style="list-style-type: none"> • Ability for sector to deliver on demand and ensure next generation of workers are fully trained to the latest industry standard • Allows for educators to implement the latest industry knowledge and trends • Will improve relations between providers and business through semi-retirement pipeline 	Risks <ul style="list-style-type: none"> • On-going differential between trainer wages and that of qualified trades practitioners likely to continue in future