



Fair Transition Unit

Institute for Public Policy Research

# **TRAIN LOCAL, WORK LOCAL, STAY LOCAL**

## **RETROFIT, GROWTH, AND LEVELLING UP**

**Joshua Emden**

September 2022

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# SUMMARY

The UK is facing the worst energy bill crisis in at least 50 years. The price cap freeze and total of £550 in support to households is welcome but temporary. While households will now be shielded from the worst increases, gas prices are projected to remain high for several years.

In a crisis like this, the government should be pulling every possible policy lever available to it, to reduce energy consumption, move away from gas permanently, and ensure the government is not subsidising UK energy bills for years to come. This will require an enormous increase in the pace of retrofitting people's homes with insulation to cut energy bills and upgrading their boilers to heat pumps to get them off the gas grid and protect households from future price shocks.

Retrofitting the UK's leaky, cold, and damp homes has always been about more than just meeting net zero targets but in the current dire economic context, it is now a critical lever in securing economic security. Retrofitting homes with good insulation and a heat pump as part of a whole-house approach could save households up to £430 on energy bills when the price cap freeze comes into force.<sup>1</sup> As the proportion of renewable generation on the electricity grid increases, these savings will only rise.

To deliver these upgrades, previous IPPR research has argued for a coordinated policy approach that includes substantial grant and loan funding for retrofit upgrades for households coupled with a nationwide awareness raising campaign. This is consistent with other blueprints for a comprehensive, long-term approach to retrofit, including the Construction Leadership Council's National Retrofit Strategy, supported by over 50 organisations including the Federation of Master Builders, UK Green Building Council, Construction Industry Training Board, and Shelter.

In addition to cutting household energy bills, the government could make retrofitting the cornerstone of its levelling up strategy by creating jobs that can be trained for and filled locally and have a substantial impact on local economies across England.

New analysis from IPPR finds that a retrofitting programme of £7 billion per year in England could sustain over 400,000 direct jobs and 500,000 indirect jobs by 2030 and over 1.2 million direct jobs and 1.5 indirect jobs by 2050.<sup>2</sup> Crucially, the distribution of retrofitting jobs fits particularly well with the government's levelling up strategy since those constituencies with the highest demand for installers tend to be current or former industrial centres and coastal communities outside of London and the South East.

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1 Previous estimates from the Construction Leadership Council's National Retrofit Strategy suggest energy efficiency alone could save households £436 per year on average (CLC 2021).

2 These job figures represent a substantial expansion to the retrofitting sector, but our analysis does not assume that they will all be additional to the economy. For example, some job positions may be filled by workers re-training from other construction jobs rather than new labour market entrants. Nevertheless, it is likely that a large proportion of these jobs will be additional. Separate estimates from the Construction Industry Training Board suggest that over 200,000 direct jobs will be needed in the installer industry over and above the industry's natural turnover rate (Oswald 2021). Similar estimates to our analysis are also found in the National Retrofit Strategy which suggests 500,000 direct jobs and 390,000 indirect jobs could be sustained by 2030.

Benefitting the most are coastal constituencies across England like Clacton, North Norfolk, Wallasey, and South East Cornwall, along with former industrial centres like Doncaster North and Sheffield Hallam. A nationwide retrofitting programme could also be particularly beneficial to so-called ‘red wall’ seats,<sup>3</sup> like North West Durham, Birmingham Northfield, Stoke-on-Trent North, Rother Valley, Don Valley, and Gedling, all of which are among the top 50 seats with the highest location quotient score – a measure of the importance a sector has to a local economy compared to the national average.

However, creating jobs that are trained locally is not guaranteed. This is because *existing* jobs in the repair, maintenance, and improvement (RMI) sector<sup>4</sup> – the sector of the everyday builder and backbone of the construction industry, in which these jobs will primarily be created – do not match well with where retrofitting will be needed most. Additionally, there are a series of structural challenges with training and recruitment in the RMI sector and broader construction industry which the government will need to address, including challenges in retraining the existing workforce; challenges in attracting new workers to the industry; and issues over training standards and training practices.

Consequently, to make a substantial contribution to cutting household energy bills, driving the government’s levelling up strategy and meet net zero targets, this paper sets out a series of recommendations to address skills bottlenecks and prepare the industry. Our five key recommendations call on the government to take the following action.

- 1. Improve training and jobs standards** by introducing a whole-house heating standard to bring together energy efficiency and low-carbon heating supply chains so that upskilling everyone in the industry means giving them a holistic understanding of heat loss, thereby improving the customer experience, and reducing hassle. Improvements to training standards should also be coupled with the government developing high-quality job standards with industry to increase the attractiveness of the RMI sector.
- 2. Increase practical and local on-site training** to ensure new installers have the practical experience which many employers demand by following the lead taken by the Construction Industry Training Board (CITB)’s on-site testing hubs and increasing the number of testing facilities provided by local colleges. In this way training for a retrofitting job should become more like taking a driving test, combining both theory and practical tests.
- 3. Improve quality assurance of training** by banning the ‘pay to pass’ model of training and increasing TrustMark’s resource to clamp down on certification schemes that do not have a robust quality assurance regime in place.
- 4. Provide support for local training courses** to deliver on the recommendations above by allocating minimum of £160 million per year to 2030 for low-carbon heating and energy efficiency training course costs for both existing workers and new labour market entrants. This funding should be in addition to the new lifetime skills guarantee, as part of an annual £1.1 billion Green Training Fund.
- 5. Reintroduce skills academies** to distribute funding and coordinate the rollout of high-quality training. The key task of these academies would include:
  - working with key stakeholders including trade unions, local employers, local authorities and skills advisory panels to identify local upskilling, reskilling, and new skills needs, ensuring training leads to high-quality jobs

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3 As defined by Kanagasooriam and Simon (2021).

4 We define the RMI sector based on using the following SIC codes: 43210, 43220, 43290, 43310, 43320, 43330, 43341, 43342, 43390, 43910, 43991, 43999, 71111, 71112, 71122

- supporting TrustMark and the Microgeneration Certification Scheme (MCS) to accredit, monitor and evaluate training providers
- providing an easily accessible online platform of accredited providers and an over-the-phone advice service for installers or individuals seeking training and raising awareness of training opportunities
- financing companies and individuals applying to access this training through the Green Training Fund or existing skills funding
- developing 'skills passports' for workers with existing transferable skills to remove the burden of paying for certification of skills that they already have.

# 1. WHY RETROFITTING IS SO IMPORTANT IN THE CURRENT CONTEXT

The UK is in the middle of the worst energy bill crisis in at least 50 years (Evans 2022a). The price cap freeze, and total of £550 in support to households is welcome but temporary, and does not offer enough support to households with lower incomes who not only use less energy overall but are much more likely to have more poorly insulated homes (BEIS 2022a). This means they must spend substantially more to reach even a modest level of warmth. Households with an Energy Performance Certificate (EPC) of C or above save as much as £2,000 relative to households in bands F and G (Evans 2022b). In a crisis of this magnitude, the government is not offering anywhere near enough support to these households (Evans 2022a).

## 1.1 RETROFITTING IS ESSENTIAL TO CUTTING ENERGY BILLS PERMANENTLY AND FUTURE-PROOFING HOMES

With bills projected to stay high well into 2023, the government will need to act to lower bills permanently by investing in retrofitting homes with energy efficiency measures like insulation and replacing gas boilers with low-carbon heating. Indeed, while energy prices are going up across Europe, the UK is one of the worst affected countries because almost every home (around 85 per cent) has a gas boiler (compared to fewer than 50 per cent in France and Germany) (Evans 2022a).

In their place, analysis using modelling developed by Carbon Brief suggests that installing heat pumps and good quality insulation<sup>5</sup> as part of a whole-house approach could lead to savings of up to £430 on energy bills for the average home when the price cap freeze comes into force (Evans 2022c). As the electricity grid continues its rapid decarbonisation, these savings will increase further and protect households from future price shocks as the electricity that homes use to power their heat pumps is increasingly supplied by renewable generation that is much cheaper than gas.

## 1.2 RETROFITTING HAS KEY BENEFITS TO THE LONG-TERM HEALTH OF THE ECONOMY

Retrofitting has never been more urgent purely based on its vital role in cutting energy bills. However, retrofitting is also beneficial to the long-term health of the economy by increasing energy security and preventing ill health from cold and damp homes. Crucially, in chapter 2, we explore in detail how a nationwide retrofitting programme is also uniquely placed to become the cornerstone of the government's levelling up strategy in England by creating jobs across the nation that can be trained locally and provide a meaningful boost to local economies, particularly in post-industrial and coastal communities.

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5 We assume here sufficient insulation to achieve a Coefficient of Performance (COP) for a heat pump of 4. Even at a COP of 3, savings based on the latest October price cap could be around £74.



### **How retrofitting benefits energy security**

Against a backdrop of the Russian invasion of Ukraine, retrofitting is essential to long-term economic security. The UK imported around 50 per cent of the gas it consumed in 2021 (Mettrick and Yang 2022). Deploying low-carbon heating measures like heat pumps<sup>6</sup> and heat networks and energy efficiency at the scale required to meet net zero targets would decrease total gas demand by 37 per cent by 2050 (CCC 2020).

Importantly, deployment rates for retrofitting also outpace alternative proposals to improve energy security by increasing domestic fossil fuel production. It takes an average of 28 years from oil and gas exploration licences being granted to production commencing (CCC 2022a). In effect, this means a scale up in household retrofitting by 2050, including the near total decarbonisation of the power grid to provide cheap renewable electricity for low-carbon heating to consume, would already have begun and ended before a drop of new oil or gas was produced. Even then, the vast majority of oil and a large proportion of gas will be exported, rather than benefitting domestic consumption (Emden et al 2020).

### **How retrofitting benefits people's health and wellbeing**

The link between leaky, damp, and cold homes and poor health is well-established but is only just starting to gain traction in Whitehall (Committee on Fuel Poverty 2021). It has previously been estimated that investing £10 billion in improving the warmth and comfort of fuel poor homes through retrofitting could save the NHS between £1.4 billion and £2 billion per year by preventing or reducing the need to treat respiratory and cardiovascular diseases (Nicol et al 2015) and as much as £55.9 billion by 2040 (CLC 2021).

As energy bills soar, it is highly likely that many households – particularly those on pre-payment meters – will simply stop heating their homes (known as self-disconnection) (Grayburn and Stoker 2017). This self-disconnection will increase the likelihood of ill health and incidence of early Winter Deaths which, combined with Covid cases on top of seasonal flu, will put the NHS under even more extreme pressure this autumn and winter. A ramp up in retrofitting to curb self-disconnection and increase warmth and comfort more generally must therefore be seen as an urgent priority for both social and health policy.

## **1.3 POLICY PROGRESS ON RETROFITTING IS FAR BEHIND WHERE IT NEEDS TO BE**

Despite these benefits, for the last decade, the government has failed to grasp the opportunity for retrofitting through a combination of cuts and multiple false-starts with initiatives like the Green Deal and Green Homes Grant. Compared to net zero targets, the rate of deployment of both heat pumps and energy efficiency retrofitting is severely behind schedule. IPPR analysis (see figure 1.1) show how the UK is currently installing only 11 per cent of the heat pumps, 12 per cent of the cavity wall insulations, 3 per cent of the loft insulations and 3 per cent of the solid wall insulations needed by 2028 to keep pace with net zero (figure 1.1) (Emden and Rankin 2021). In the face of the dire energy price crisis the pace of deployment required is only increasing.

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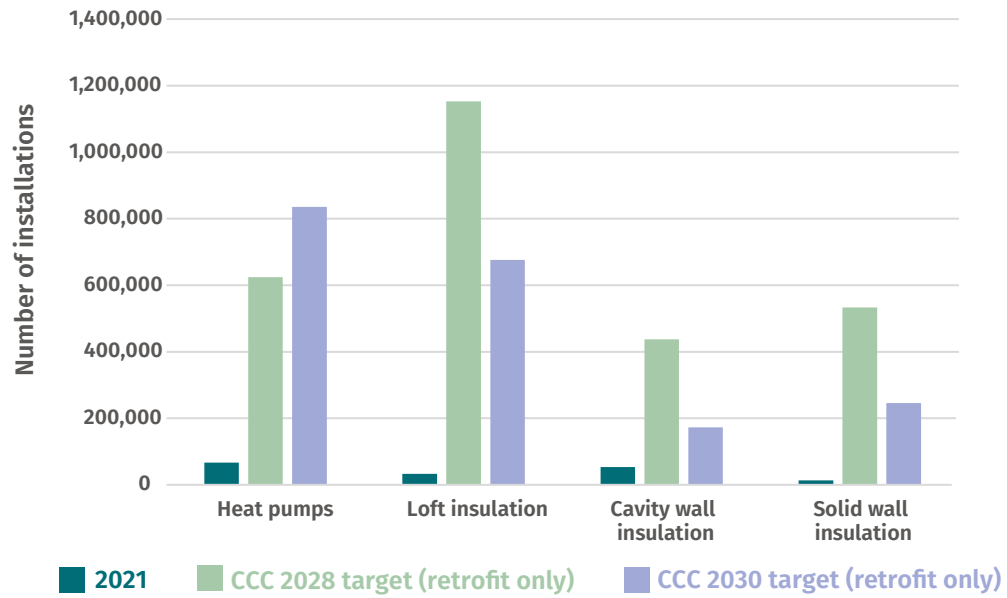
**FIGURE 1.1: INSTALLATION OF ENERGY EFFICIENCY MEASURES AND HEAT PUMPS ARE FAR**

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6 In this analysis we use the term 'heat pumps' to refer to all variations of heat pumps including air-source, ground-source and hybrid heat pumps. In addition, we recognise that newer technologies such as infrared heating and heat batteries may play a small role in future heat decarbonisation but omit them from our modelling in this report.

### BEHIND THE PACE NEEDED TO KEEP TRACK WITH NET ZERO TARGETS

Installations in 2021 by technology compared to annual installations targets for 2028 and 2030



Source: HPA 2021, CCC 2022b (adapted by IPPR)

## 2. A NATIONWIDE RETROFITTING PROGRAMME THAT CAN TRULY LEVEL UP THE COUNTRY

Previous IPPR research has argued that designing a successful programme to scale up retrofitting nationwide will require a coordinated and long-term policy approach with multiple key elements (see box-out section below). While each of these elements are crucial to effective delivery, in this paper, we provide a deeper analysis of why and how the government should invest in skills provision across the country. Indeed, in addition to the benefits mentioned in chapter 1, we detail how a nationwide retrofitting programme has the potential to become the cornerstone of the government's levelling up agenda in England by both creating jobs and training workers locally in communities across the country.

### THE KEY POLICY COMPONENTS TO A NATIONWIDE RETROFITTING PROGRAMME

Delivering a nationwide retrofitting programme to meet net zero targets, cut bills, and provide energy will require a proactive and coordinated policy approach. This clear policy direction is consistent with other blueprints for a comprehensive, long-term approach to retrofit, including the Construction Leadership Council's National Retrofit Strategy, supported by a wide spectrum of over 50 organisations including the Federation of Master Builders, UK Green Building Council, Construction Industry Training Board, and Shelter (CLC 2021). This coordinated approach is also supported by previous IPPR research which sets out how a successful programme will require the government to focus on five key areas.

1. **Standards** – the government must set a clear direction for the market. In doing so it could follow Scotland's lead and introduce stricter EPC minimum standards for social housing, minimum EPC regulations at the point of rent, repair and sale and a phase out date banning the sale of oil and gas boilers.
2. **Skills** – the government should expand training standards to require an understanding of the whole heating system in a home, co-develop high-quality job standards, invest in skills training through the reintroduction of skills academies and the resources of TrustMark and MCS and clamp down on bad practices such as 'pay to pass' training.
3. **Funding** – the government must introduce a comprehensive 'one stop shop' for financial support known as the GreenGo scheme which would include full grants for fuel poor homes and substantial grants and zero-interest loans for other groups. This funding is particularly important given the recent high-profile failure of the Green Homes Grant which one stakeholder we spoke to described as having "a chilling effect on

market confidence”. In the medium and longer term, private finance could also have an important role to play by offering green mortgages, demand-aggregated financing, and community municipal bonds.

4. **Communication** – the government must introduce a massive national information campaign a properly resource advice service and a cross-referral scheme where everyday services can refer households to these or other advice services and benefits support.
5. **Local capacity** – the government must increase funding to local authorities to deliver locally driven retrofitting schemes.

Source: Emden and Rankin 2021

## 2.1 RETROFITTING CAN BE THE CORNERSTONE OF LEVELLING UP POLICY

To meet net zero targets and cut household energy bills, almost all of England’s 24 million households will need to be upgraded with millions of energy efficiency measures and low-carbon heating technologies by 2050 (see table 2.1).

TABLE 2.1: CUMULATIVE MEASURES TO BE FITTED IN ENGLAND BY TECHNOLOGY TYPE

Technology	Cumulative measures to be fitted by 2050 to meet net zero targets <sup>7</sup> in England
Energy efficiency measures <sup>8</sup>	43 million
Behavioural measures <sup>9</sup>	24 million
Low-carbon heating <sup>10</sup>	19 million
District heating	5 million

Source: CCC 2020 (adapted by IPPR)

Around 85 per cent of homes in the UK have gas boilers (90 per cent of homes in England (DLUHC 2022a)), making the UK uniquely exposed to surging international gas prices. The nation’s housing is also chronically inefficient. Across England, 89 per cent of local areas have more than half of their housing stock at EPC D or below, all of which will need to be upgraded (ONS 2021).

7 Figures are cumulative between now and 2050 and include replacements for heating technologies (for example, heat pumps have a lifespan ranging from 15 to 20 years according to Foster et al 2021).

8 Primarily referring to types of insulation including loft, floor, cavity wall and solid wall (Foster et al 2021).

9 In our analysis we assume these to be analogous to the ‘energy saving controls’ described in (ONS 2022a).

10 Primarily referring to heat pumps but also including hybrid heat pump combinations with other technologies such as hydrogen and solar thermal and some electric resistive heating (Foster et al 2021).

However, in delivering these upgrades, the government has an opportunity to level up by creating jobs across England to match the geographical spread of retrofitting demand. According to IPPR analysis of CCC data, delivering these retrofits will require the government and industry to invest an average of just under £7 billion per year in England between now and 2050 (CCC 2020). IPPR analysis suggests a retrofitting programme of this scale in England could sustain over 400,000 direct jobs and 500,000 indirect jobs by 2030 and over 1.2 million direct jobs and 1.5 indirect jobs by 2050 (table 2.2).<sup>11</sup>

**TABLE 2.2: DIRECT AND INDIRECT JOBS CREATED BY SECTOR BY 2030 AND BY 2050**

	Energy efficiency measures <sup>12</sup>	Behavioural measures	Low-carbon heating	District heating	Total
<b>By 2030</b>					
Direct jobs	239,925	15,579	122,392	25,011	<b>402,908</b>
Indirect jobs	261,572	24,860	138,811	77,080	<b>502,324</b>
GVA effect	£27.6bn	£2.3bn	£14.4bn	£7.1bn	<b>£51.4bn</b>
<b>By 2050</b>					
Direct jobs	353,323	24,274	786,206	81,074	<b>1,244,878</b>
Indirect jobs	385,201	38,734	891,676	249,860	<b>1,565,471</b>
GVA effect	£40.7bn	£3.5bn	£92.7bn	£23.1bn	<b>£160bn</b>

Source: IPPR analysis

Importantly, as figure 2.1 shows, the distribution of retrofitting jobs fits particularly well with the government’s levelling up strategy, as those constituencies with the highest demand for installers tend to fall outside of London and the South East. As the government’s levelling up whitepaper has recognised, “while London and much of the South East have benefitted [from economic growth], former industrial centres and many coastal communities have suffered” (DLUHC 2022b).

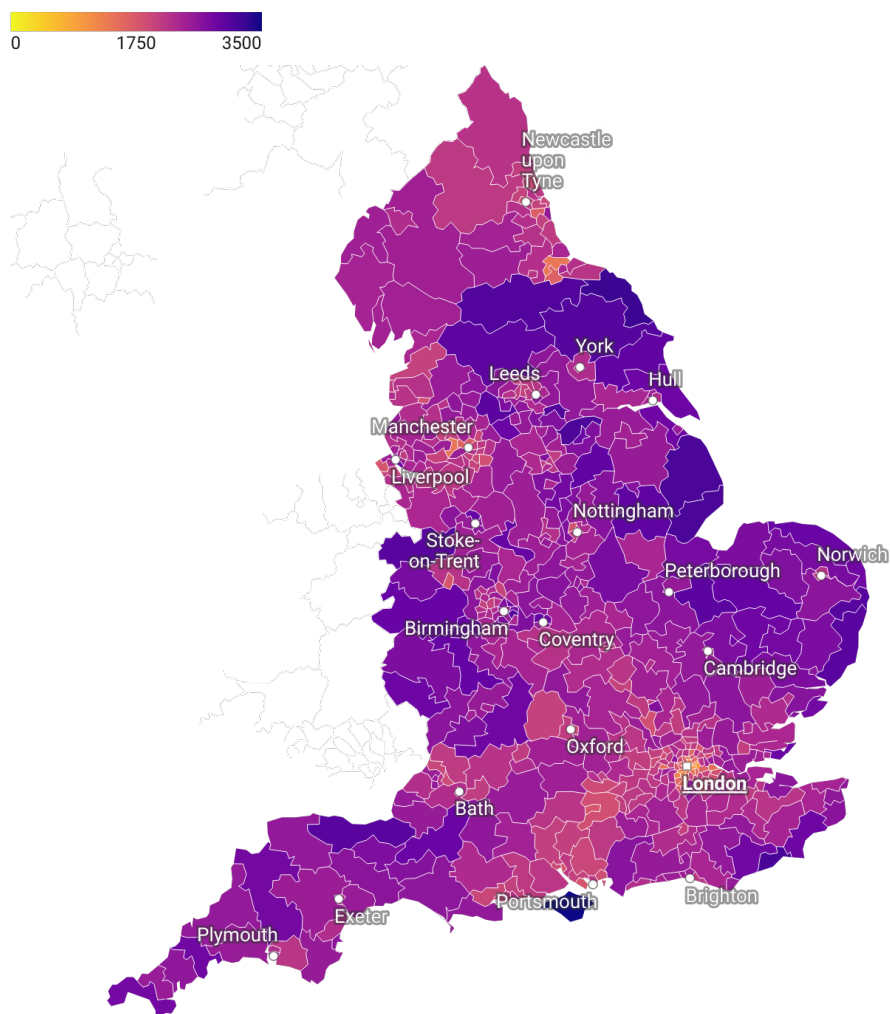
As our analysis shows, many of these former and current industrial and manufacturing centres like Stoke-on-Trent, Birmingham, Leeds, Coventry, and Liverpool are some of the areas that will benefit most from retrofitting jobs. Similarly, many coastal constituencies like Louth and Horncastle, Scarborough and Whitby, Boston and Skegness and Suffolk Coastal on the North Sea coast, and Bridgwater and West Somerset, and Torridge and West Devon on the Irish Sea coast are also major beneficiaries.

11 These job figures represent a substantial expansion to the retrofitting sector, but our analysis does not assume that they will all be additional to the economy. For example, some job positions may be filled by workers re-training from other construction jobs rather than new labour market entrants. Nevertheless, it is likely that a large proportion of these jobs will be additional. Separate estimates from the Construction Industry Training Board suggest that over 200,000 direct jobs will be needed in the installer industry over and above the industry’s natural turnover rate (Oswald et al 2021).

12 Job creation primarily comes from retrofitting energy efficiency measures up until 2030, reflecting the ‘fabric first’ approach taken by modelling for the Climate Change Committee.

**FIGURE 2.1:<sup>13</sup> A NATIONWIDE RETROFITTING PROGRAMME CAN CREATE JOBS ACROSS THE COUNTRY AND PARTICULARLY IN HISTORICALLY UNDER-INVESTED COASTAL CONSTITUENCIES AND FORMER INDUSTRIAL CENTRES**

**Distribution of total direct jobs in retrofitting in England by 2050, adjusted by fuel poverty and population density**



Map data: © Crown copyright and database right 2018 • Created with Datawrapper

Source: IPPR analysis

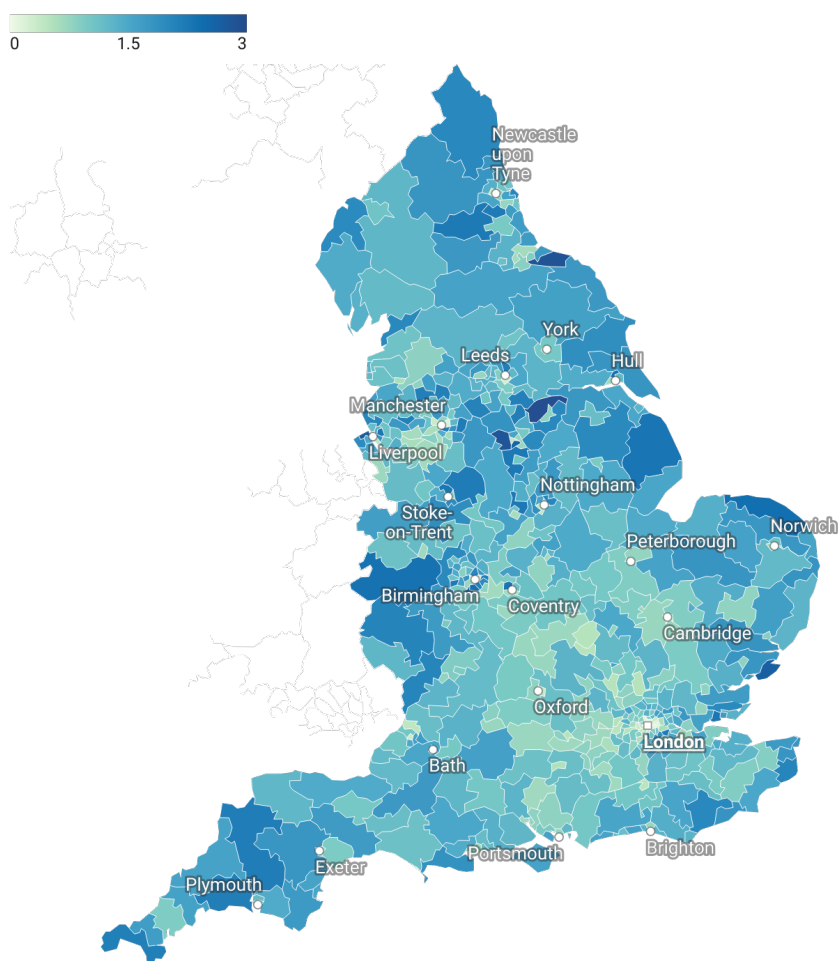
## 2.2 RETROFITTING COULD BECOME AN IMPORTANT EMPLOYER IN MANY LOCAL ECONOMIES ACROSS ENGLAND

Not only will retrofitting jobs benefit many local communities in absolute terms, but these jobs can also become a key source of employment *within* local economies. We demonstrate this impact using location quotient (LQ) analysis, which shows the ratio between the importance an industry has within a region compared to its importance nationally. This helps to demonstrate the scale of the economic boost which retrofitting jobs could provide and indicates which local economies could truly ‘level up’.

<sup>13</sup> Modelling is adjusted based on fuel poverty to reflect that fuel poor homes are both the priority for upgrades and are more likely to need more work done to raise the energy efficiency of their homes. Modelling is further adjusted by population density to provide an estimate of the distribution of deployment of heat pumps and heat networks by constituency, where more densely populated constituencies are better suited to receiving heat networks and vice versa.

To take an example: 1.2 million direct jobs in retrofitting by 2050 would represent around 5 per cent of the workforce in England in 2020.<sup>14</sup> However, in the Middlesbrough South and East Cleveland constituency, IPPR analysis suggests retrofitting jobs could represent as much as 14 per cent of employment, giving a LQ ratio of local to national of 2.8.<sup>15</sup>

**FIGURE 2.2: A NATIONWIDE RETROFITTING PROGRAMME COULD HAVE A SIGNIFICANT IMPACT ON THE LOCAL ECONOMIES OF CONSTITUENCIES ACROSS THE COUNTRY AND PARTICULARLY IN COASTAL AREAS AND FORMER INDUSTRIAL CENTRES**  
**Location quotient (LQ) ratio by parliamentary constituency**



Map data: © Crown copyright and database right 2018 • Created with Datawrapper

Source: IPPR analysis

Looking at figure 2.2, we once again see that the impact on local economies is most pronounced outside of London and the South East. Benefitting the most are coastal constituencies across the country like Clacton, North Norfolk, Wallasey, and South East Cornwall, along with former industrial centres like Middlesbrough South East and Cleveland (mentioned above), Doncaster North and Sheffield Hallam.

- 14 This analysis does not make assumptions about population growth or employment rates by 2030 or 2050 and the comparison is intended to illustrate how retrofitting could be a key source of future employment in local economies. It also does not make assumptions about other employment growth initiatives in these local economies.
- 15 This analysis does not assume all jobs created within retrofitting will be new jobs to the economy and more simply highlights how important the retrofitting sector could become in each local economy.

A nationwide retrofitting programme could be particularly beneficial to red wall seats<sup>16</sup> like North West Durham, Birmingham Northfield, Stoke-on-Trent North, Rother Valley, Don Valley, and Gedling, all of which are among the top 50 seats with the highest LQ score.

Importantly, this analysis does not look at the LQ ratio of indirect jobs as 'indirect' here refers to jobs that are created in retrofitting supply chains – such as the manufacturing of insulating materials or heat pumps. Jobs in the supply chain tend to be more geographically spread out and difficult to track. However, while we do not attempt to quantify how important supply chain jobs may be to local economies, there is good evidence to suggest that investment in local economies can create a 'crowding in' effect where businesses establish supply chains collocated to areas of high demand and investment activity (IPPR 2018).

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16 As defined by Kanagasooriam and Simon (2021).



### 3.

## THE SKILLS CHALLENGES FACING THE INDUSTRY

Though the benefits of a nationwide retrofitting programme discussed in chapters 1 and 2 are substantial, they are not guaranteed. Failure to prepare the retrofit workforce with the right kinds of skills risks either the pace of delivery being slowed, or a fall in the quality of installations (“rush jobs” as one stakeholder we interviewed noted), or possibly both. In either case, given previous high profile policy failures like the Green Deal and Green Homes Grant, failing to address this bottleneck will have a devastating impact on both public and political confidence that could derail any retrofitting programme at a time when it is needed most.

While many stakeholders frequently cite how proactive national policy must always be the first step in stimulating market activity, there are also existing challenges in the skills system, including the risk that jobs will be created in the wrong places to satisfy a levelling up agenda and a range of skills bottlenecks which the government will need to address to ensure the retrofitting workforce keeps pace with demand.

### 3.1 THERE IS A RISK THAT JOBS BEING CREATED ARE NOT DELIVERED THROUGH PEOPLE BEING TRAINED AND EMPLOYED LOCALLY

Despite the potential opportunity for jobs to be created across the nation, there is risk these opportunities for levelling up will not be fully realised. This is because *existing* jobs in the repair, maintenance, and improvement (RMI) sector<sup>17</sup> – the sector in which these jobs will primarily be created – do not match well with where retrofitting will be needed most. As figure 3.1 shows, many current workers in the RMI sector, are more concentrated in the regions of the South East and east of England. As figure 2.1 in the previous chapter shows, except for the Cambridgeshire region, demand for installers tends to be lower in these parts of the country.

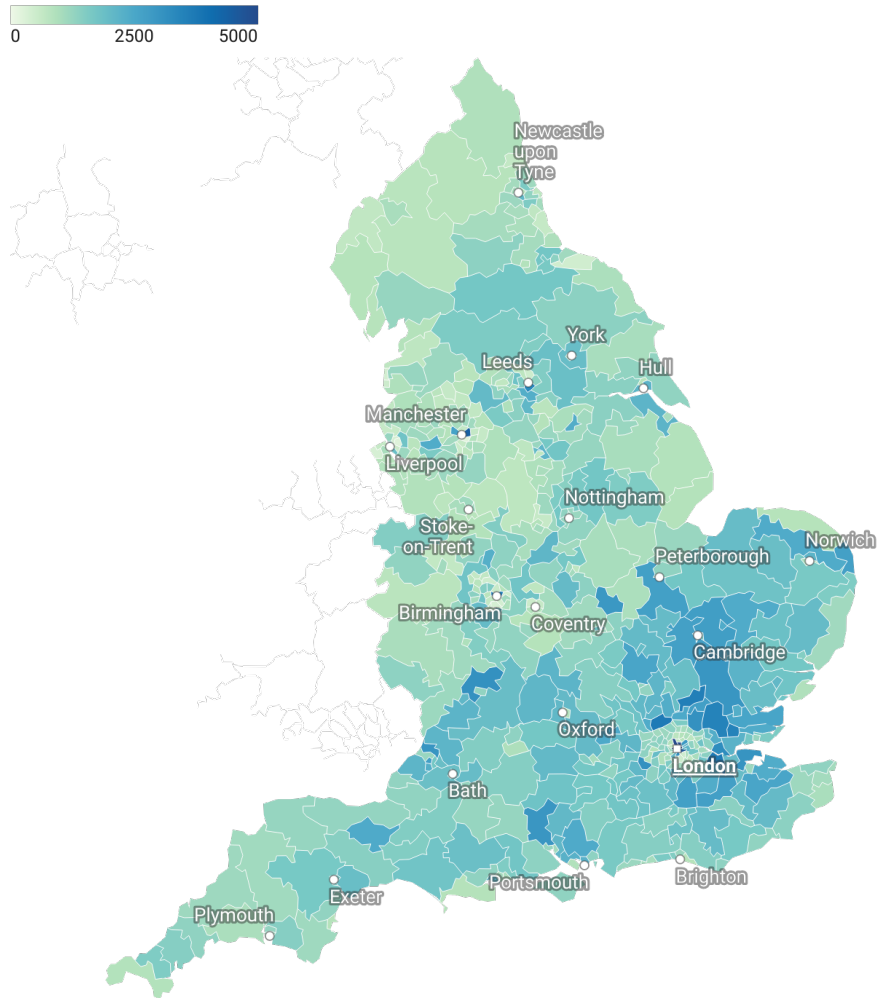
Instead, there is a risk that new jobs are created in, and retrofitting demand is serviced by, parts of the country that already have a more established installer base rather than where they are needed most and, as we discussed in chapter 2, where they could have the most impact on local economies. Indeed, stakeholders we interviewed suggested installers may not be prepared to travel far beyond their normal catchment area, meaning certain parts of the country will not see the benefits of retrofitting at all.

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17 We define the RMI sector based on using the following SIC codes: 43210, 43220, 43290, 43310, 43320, 43330, 43341, 43342, 43390, 43910, 43991, 43999, 71111, 71112, 71122.

**FIGURE 3.1: THE CURRENT RMI WORKFORCE DOES NOT MATCH WELL WITH THE PARTS OF THE COUNTRY WHERE RETROFITTING DEMAND IS HIGHEST**

**Jobs in repair, maintenance and improvement by parliamentary constituency in 2020**



Map data: © Crown copyright and database right 2018 • Created with Datawrapper

Source: ONS 2022b (adapted by IPPR)

### **3.2 THE RMI SECTOR AND CONSTRUCTION INDUSTRY MORE BROADLY ARE ALREADY FACING SUBSTANTIAL SKILLS CHALLENGES**

The opportunity to create 400,000 locally trained retrofitting jobs across England by 2030 also comes at a time when both the RMI sector and the construction industry more broadly are already facing substantial structural challenges in the way the industry trains and recruits people. Broadly, these challenges can be separated into three areas:

1. challenges in retraining the existing workforce
2. challenges in attracting new workers to the industry
3. issues over training standards and training practices.

### **Challenges in retraining the existing workforce**

In the early years of a nationwide retrofitting programme, a large proportion of installers could come from the existing workforce. For example, the Heat Pump Association suggests that there are around 100,000 gas engineers with the skills capable of installing heat pumps and their membership has the capacity to train up 7,000 per year (HPA 2020). However, this is starting from a low baseline with estimates suggesting there were only 600 MCS-accredited heat pump installers in the UK in 2020 (Johns and Longlands 2020).

Indeed, there are many practical barriers to retraining workers. Covering wages when employees undertake training can be a significant time and resource cost to businesses (Oswald et al 2021). This is particularly challenging for the high number of contractors, small and mid-sized enterprises (SMEs) and micro-businesses in the sector who would need to forgo earnings to take time to train. Furthermore, while some training can be undertaken online, relatively few training providers and colleges offer in-person training – and these courses are often spread out across the country making them difficult to access (BEIS 2021). In the North West, for example, it was reported that there are only 13 companies with the appropriate TrustMark/MCS accreditation (Johns and Longlands 2020).

Finally, just because a worker could retrain, they may not actually want to. This is especially true for SMEs and micro-businesses who may not see the value in retraining due to being busy and not having the time to get to grips with new standards. Indeed, currently the construction and retrofit industries are particularly fragmented and lack minimum standards or training for entry. While a low bar for entry is partly a strength of the industry, it means there is also a lack of clarity around further training routes. In addition to upskilling, the sector can be volatile for some workers, with a high number of contractors and micro-businesses that lack secure long-term employment (Killip et al 2021). Consequently, moving into this industry without greater professionalisation and higher job standards will be particularly challenging for workers in sectors like the gas industry who can currently expect decent job standards and higher levels of unionisation. A major challenge is therefore raising awareness among existing businesses of the value of upskilling their workforce as part of a broader drive for greater professionalisation in the sector.

### **Challenges in attracting new workers to the industry**

Retraining existing installers will not be sufficient to meet the future demand for workers, but attracting new apprentices can be challenging as the RMI and construction sectors can be perceived as less appealing. This is particularly true for women, minority ethnic groups and people with disabilities who are significantly under-represented in the industry (EJC 2021; Oswald et al 2021). Additionally, as some stakeholders noted, given the prevalence of micro-businesses and SMEs in the construction industry and RMI sector, many businesses are unlikely to have capacity to take on and train up new labour market entrants without existing work experience. Indeed, some stakeholders noted that it was quite common for new labour market entrants to start up their own practices rather than receive more training or join existing companies.

This problem is currently being compounded by severe shortages in trainers and teachers in further education colleges in England, which the Association of Colleges has called the worst staffing crisis in two decades (AoC 2022a). This is particularly severe for construction and engineering curriculums in England, with a recent survey finding that two-thirds of construction curriculums and 60 per cent of engineering curriculums had reported both recent and persistent (defined as more than three months) staff vacancies (AoC 2022b).

### ***Issues with training standards and bad practices***

Stakeholders we interviewed suggested that PAS2035 standards for energy efficiency retrofitting, and MCS (Microgeneration Certification Scheme) certification for heat pumps, are suitable in isolation from each other. However, these standards do not offer a combined whole-house approach that looks at the overall heating system of a home. As one stakeholder we interviewed noted, “a good quality installation is 10 per cent about the heat pump and 90 per cent about understanding the heating system in the home”. From a customer perspective, a whole-house heat approach that installs energy efficiency measures and heat pumps together can maximise a heat pump’s efficiency and hence potential bill savings. However, achieving these savings would likely require a retrofit coordinator with training in whole-house heating. Without this coordinator, the household themselves would need to source different installers for energy efficiency measures and heat pumps. This adds a layer of complexity for the consumer and increases the risk of installations being incompatible with each other leading to a negative customer experience.

The customer experience could be further impacted by insufficiently trained installers. Many stakeholders we spoke to noted that many newly qualified installers simply lacked on-the-job training and had instead passed what was effectively only a theory-based test. Indeed, some stakeholders reported instances where installers have been able to ‘game the system’ by taking training with minimal testing. Similarly, stakeholders noted that some certification bodies will certify that installations in homes meet required standards without checking the property itself.

Given the rapid pace of delivery needed to cut bills and reach net zero targets and the previous high-profile failures of schemes like the Green Deal and Green Homes Grant, it is essential that both training standards and training practices are addressed to give the public confidence in retrofitting and to ensure the opportunity for job creation across the country is fully realised. As one stakeholder pointed out: “the problem with heat pumps is not the heat pump itself, but the quality of the installation”.

## 4.

# POLICY RECOMMENDATIONS

As we discussed in chapter 2, taking a coordinated policy approach will be essential to delivering a national retrofitting programme. All policies to invest in local skills training must come as part of an overall policy package.

To this end, IPPR has previously called for government to couple investment in skills provision with the introduction of a GreenGO scheme that would offer full grants for retrofitting fuel poor homes and grants of up to £7,500 to non-fuel poor homes, combined with a comprehensive awareness raising campaign (Emden and Rankin 2021). Ultimately this overarching policy direction is one of the most important factors in driving businesses to train up the retrofitting workforce as it demonstrates a clear signal of intent. By contrast, a recent survey by the Construction Industry Training Board (CITB) found that three in four are not planning to undertake any net zero related training as they simply do not view it as a current priority

Nevertheless, as discussed in chapter 3, the challenges the retrofitting sector faces in the way it trains and recruits people means it is not ready for a surge in demand and must be seen as a policy priority. In the following section, we show how different policy interventions can resolve current bottlenecks by building on existing standards, enforcing high-quality installation, and investing in skills training.

### 4.1 IMPROVING TRAINING AND JOB STANDARDS

To minimise disruption to the consumer and reduce the risk of complications in installation, training standards need to move towards requiring the installation of energy efficiency and low-carbon heating at the same time. In the short term, **we recommend the government works with key industry stakeholders and through skills academies (see section 4.5) to expand existing training standards by 2023** (these should include unions, the Construction Industry Training Board, the Federation of Master Builders, the Insulation Assurance Authority, the UK Green Building Council, the Construction Leadership Council, the Institute for Apprenticeships and Technical Education, the Energy Efficiency Infrastructure Group, the Microgeneration Certification Scheme, and Trustmark).

This will involve developing PAS2035 regulations to require all retrofit designers and installers to be able to install energy efficiency measures compatible with low-carbon heating. Correspondingly, this expansion will require all MCS qualified installers to understand how low-carbon heating will perform within the overall heating system. These regulations should be updated and included within the upcoming ECO4 programme. In the longer term, **the government should introduce a ‘whole-house heat’ labelling scheme, introduced as a voluntary standard in 2023 and a regulation by 2030**, which would act as a demand driver to encourage installers to bring together their supply chains.

To increase the attractiveness of the sector to new labour market entrants and provide reassurances to workers looking to retrain, as IPPR’s Environmental Justice Commission (2021) has previously recommended, **the government should work with the stakeholders mentioned above and commit to introducing high-quality job**

**standards for the retrofitting industry** and supporting routes for the smallest firms to access these. These standards should be co-developed by workers and unions and include criteria such as:

- reasonable working hours
- safe working environments
- flexible working
- protection of workers' rights
- opportunities for training and career progression
- decent pay
- job security
- diversity.

#### **4.2 Increasing practical and local on-site training**

To provide more hands-on training for new installers, **the government should increase the number of on-site testing facilities located within local colleges across the country and a corresponding increase in funding to colleges to help run them.** For more rural areas, testing facilities could be mobile to ensure practical training was still available in more remote parts of the country. In this way, training to be an installer should become more like taking a driving test: requiring a theory test, frequently taken online, followed by practical demonstration. Indeed, the CITB has already reported significant positive feedback from the recent introduction of their on-site training hubs which help to establish a talent pipeline by providing people with critical on-site experience that is often required by employers in the construction sector (CITB 2021).

Finally, as part of all training standards, **the government should require thermal image testing after installation to verify when installations like cavity or loft insulation are reducing heat loss in a property** and to provide an easily teachable, practical lesson demonstrating why the measure being installed is so important.

#### **4.3 IMPROVING QUALITY ASSURANCE OF TRAINING**

To prevent installers and certification bodies from 'gaming the system', we recommend that **the government should remove the 'pay to pass' model of training** for all retrofitting training courses. In addition, we recommend that **the government should expand TrustMark's resources to clamp down on certification bodies** that do not have a robust quality assurance regime in place.

#### **4.4 PROVIDING SUPPORT FOR LOCAL TRAINING COURSES**

Meeting the scale of installations required to reach net zero, improving training standards above, and ensuring jobs created are delivered in the same communities where retrofitting is actually needed will require proper resourcing. Building on previous IPPR analysis, we recommend that **the UK government should allocate a minimum of £160 million per year to 2030 for low-carbon heating and energy efficiency training course costs** for both existing workers and new labour market entrants (Emden and Rankin 2021).<sup>18</sup> This funding should be in addition to the new lifetime skills guarantee, as part of an annual £1.1 billion Green Training Fund

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<sup>18</sup> We estimate this figure by looking at the annual cost of training 402,908 workers by 2030. We assume a ratio of 8:2 existing workers to new apprentices through to 2030. We use a bottom-up rapid review of course costs (including NVQ level 2, PAS2035 and MCS accredited training) to estimate average course costs for existing workers of approximately £3,000 per worker. We assume apprenticeship costs to be £4,000 per apprentice based on government incentive payments for the apprenticeship levy (EFSA 2021). These figures represent recommended public investment and we recognise this does not capture total lifetime training costs, some of which will be born by industry.

recommended by IPPR’s Environmental Justice Commission (IPPR Environmental Justice Commission 2021).

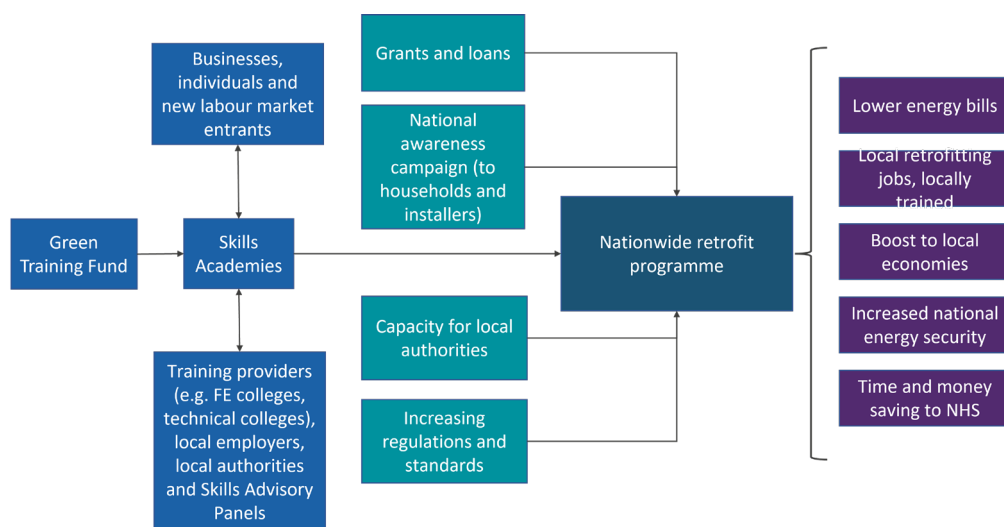
#### 4.5 REINTRODUCING SKILLS ACADEMIES

**To distribute funding and to support and coordinate the rollout of high-quality training, the government should reintroduce skills academies.** The skills academy is not a new idea and was introduced in 1998 for the specific purpose of upskilling workers to meet planned expansion in oil and gas exploration activities in the North Sea (Emden et al 2020). Consequently, now is the time to use skills academies again to upskill workers for the new low-carbon era. The key tasks of these academies would include the following (summarised in figure 4.1):

- working with key stakeholders including trade unions, local employers, local authorities, and skills advisory panels to identify local upskilling, reskilling and new skills needs and ensure training leads to high-quality jobs
- supporting TrustMark and MCS to accredit training providers and to ensure that all training for existing workers and new labour market entrants adheres to quality standards
- monitoring and evaluating training by receiving feedback from trainees and businesses on the quality of their training courses
- providing an easily accessible online platform of accredited providers and an over-the-phone advice service for installers or individuals seeking training
- financing companies and individuals applying to access this training through the Green Training Fund or existing skills funding
- awareness raising of training opportunities and support to businesses and individuals
- developing ‘skills passports’ for workers with existing transferable skills to remove the burden of paying for certification of skills that they already have.

**FIGURE 4.1: SKILLS ACADEMIES CAN HELP BUSINESSES, INDIVIDUALS AND NEW LABOUR MARKET ENTRANTS ACCESS FUNDING FOR TRAINING AND CONNECT THEM WITH ACCREDITED TRAINING PROVIDERS**

Diagram demonstrating the role of skills academies



Source: Author’s analysis

## 5. CONCLUSION

In the face of the worst energy price crisis in at least 50 years, retrofitting the UK's cold, damp, and leaky housing stock with high-quality insulation and low-carbon heating has never been more urgent or important. The government must respond in kind with a nationwide retrofitting programme to cut household energy bills, increase domestic energy security by reducing reliance on gas imports, and save the NHS billions of pounds.

These benefits alone are worth pursuing, but retrofitting can also become the cornerstone of the government's levelling up strategy in England. Almost every home across the nation will need to be upgraded with insulation, low-carbon heating, or both as part of a whole-house retrofitting approach. With the sheer scale of installations this would require comes a huge opportunity to create locally trained retrofitting jobs and provide a substantial boost to local economies. While every local area in England stands to benefit from this surge in economic activity, current and former industrial centres, coastal communities, and many red wall seats could be particular beneficiaries.

But these benefits will not happen on their own. The repair, maintenance, and improvement sector – the sector of the everyday builder – as well as the construction industry more broadly, face substantial challenges in training up their workforce. Realising the opportunity of locally trained retrofitting workforces will require increasing awareness of the value of training, improving accessibility and attractiveness of training both to new apprentices and other workers in the construction sector, and in some cases, improving the content and quality of training provision by offering more practical, hands-on experience, and clamping down on bad practices.

Addressing these issues will of course need to be part of a wider and coordinated package of policy measures that drive a nationwide retrofitting programme, including a national awareness raising campaign and substantial grant and loan funding for homes to be able to afford these upgrades. But to avoid the false-starts of previous high-profile policy failures and instead genuinely deliver levelling up across England, it is essential that any intervention is explicitly long-term in nature, and that the government supports industry to prepare for a wave of economic activity and opportunity.



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