

WOLSELEY



Wolseley at Westminster

Accelerating the renewables
transition

12th November 2025



About Wolseley

Wolseley Group is the UK's largest specialist merchant, comprised of 25 unique businesses and a national footprint of 650 branches across the UK, supported by more than 5,000 staff. We deliver a diverse set of technologies, including heat pumps, heat networks, solar PV, and electric vehicle chargers to support the decarbonisation of buildings across the UK. Our reach is broad, servicing over 100,000 customers nationally, while our impact remains deeply local. Wolseley Group focuses on decarbonisation by supporting around 1,000 installers annually in their renewables training and livelihood each year, whilst delivering warm homes.

RENEWABLES
CENTRE

Foreword



John Hancock,
Chief Operating Officer, Wolseley UK

The transition from gas boilers to renewables will revolutionise the heating industry in ways not seen since the widespread adoption of central heating in homes. We should not underestimate the scale of the challenge - no part of society will be left untouched. Installers, homeowners, and the heating industry will see the way they work and live transformed. If we are successful, every part of the sector will look different in 2050 than it does today: from the way in which heating systems are installed, and a home is heated, to fundamental shifts in supply chains and logistics. But with great challenge comes great opportunity. Our role at Wolseley Group in the industry is to bring people with us – and that is why we are investing in leading the transition to renewables.

Renewables such as heat pumps, solar and battery storage are expanding at a fast pace, with a record number of certified renewable installations in UK homes and small businesses last year.¹ Over the past year, government support has grown, with planning rules eased for air source heat pumps, a £90 million boost to the Boiler Upgrade Scheme, and the launch of Heat Network Zoning under the Energy Act 2023.

But on its own this is not enough as the scale up required for heat pumps is substantial. The Climate Change Committee estimates that for the heating and building sector to hit the target of becoming net zero by 2050, we need to install 1.5 million heat pumps annually by 2035, over 15 times the nearly 100,000 that were installed last year. Our work at Wolseley Group gives us a unique insight into the challenges for the sector. The first is securing the skilled, quality workforce needed to install these heat pumps. The second is securing the supply chain to deliver them.

Installers and consumers are at the heart of the heat pump journey. We need a skilled installer base that can be confident in delivering quality installations. Many are out there, but we need to bring more people with us if we are to drive a high volume of quality heat pump installations that consumers are confident in. We know that, when installed correctly, heat pumps can be three-to-four times more energy efficient than boilers, meaning they can perform just as well on a running cost basis. But without consumer confidence, we will not have the demand to drive the growth of heat pump installers. It's therefore imperative that the right framework is in place to ensure heat pump, but also renewables, pathways are cost-effective, informative and achievable for installers and consumers.

To install 1.5 million heat pumps annually by 2035, logistics must shift from boiler-based transportation, storage and delivery systems to accommodate air source heat pumps (ASHP). The challenge here is stark. Gas boiler baskets are easily transportable and collectable by installers from the network of merchant branches across the UK. But ASHP baskets are heavier, requiring specialist handling equipment and more space: one oversized pallet is needed for an ASHP unit plus two extra standard pallets for ancillaries (such as radiators, cylinder, and pipework), in contrast to a residential boiler swap requiring one pallet for the boiler and any associated ancillaries. As a result, ASHPs cannot typically be collected by installers, or stored efficiently at small branches. ASHPs will therefore require larger warehouses, more Heavy Goods Vehicle deliveries, and to be delivered efficiently to customer sites to install them at the pace and scale required to decarbonise homes.

Doing nothing to tackle these issues is not an option and Wolseley recognises its responsibility to lead. As the UK's largest heating system merchant, we have the capability to support installers, developers and housing providers across the supply chain in successfully transporting and installing a range of technologies, such as heat pumps, direct electric, solar, EV chargers. Our extensive network of gas engineers can also benefit from our training expertise, enabling them to upskill in renewable technologies. We have deployed significant capital to enhance this capability and progress our ambition to cut complexity across the supply chain and support installers to focus on what they do best: install. This is being achieved through:

- **Renewables Centre:** Launched in May, our Renewables Centres act as a one-stop-shop for supporting installers across the country to transition easily, confidently and competently to renewables. It combines accredited training in partnership with NAPIT, alongside support for MCS certified designs, installation and commissioning, whilst providing access to high-quality renewable products from market leading brands. We have experienced encouraging uptake, with 300 installers trained since June 2025 across our varying locations.
- **Design and MCS support:** We provide an MCS partnership service that allows qualified, non-MCS accredited installers to deliver fully MCS-compliant heat pump projects through room-by-room heat loss calculations, equipment specifications, pre-installation site visits and Distribution Network Operator applications, design schematics, on-site technical support, commissioning, customer handovers and Boiler Upgrade Scheme grant processing. Our design service provides fully compliant designs to MCS-standards through seasonal coefficient of performance and running cost estimates, room-by-room heat loss calculations, heat pump specification, sound calculations, emitter output reports, and mechanical and electrical schematics.
- **Start at Home Scheme:** In partnership with Nesta, we are helping installers overcome the challenge of practical experience by installing their first heat pump in their own home, also benefitting from free training, up to £7,500 in materials, and free MCS design, support and commissioning.
- **Fulfilment centres:** We have invested in transforming our logistics to deliver renewables solutions across the UK with a new generation of 100,000 square foot fulfilment centres. These centres will overcome the distribution, storage, and installation difficulties arising from the significant increases in weight and space requirements for heat pumps when compared to gas boilers.

While ambitious new policies like the Future Homes Standard and strengthening of Minimum Energy Efficiency Standards are both welcome and necessary, on their own they are not sufficient. All the key schemes driving heat pump installations and installer training (such as the Boiler Upgrade Scheme and the Heat Training Grant) are due to expire within the next four years. To deliver our proposition to market, Wolseley Group needs long-term certainty to play our part.

From transforming logistics within the supply chain, to our view on workforce requirements, through to supporting installers and consumers, I invite this government to engage with us on the path to change - facilitating the policy landscape necessary to strengthen the supply chain and allow investors, installers and consumers to join us on our journey to renewable homes.

John Hancock,

Chief Operating Officer, Wolseley UK





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Executive Summary

The transition from gas boilers to heat pumps requires the largest step change in the way installers and homeowners approach heating of any renewable technology. The Climate Change Committee states 1.5 million heat pumps must be installed annually in 2035 to achieve buildings related emissions reductions in Carbon Budget 7.³ This recommended target will require increasing the supply of heat pumps by nearly 15 times in 10 years. For this to occur consumers will need to be confident in the technology and be able to access financial support until the market can sustain itself. Installers will need to feel compelled to enter the heat pump market and invest in upskilling into a new field and have the confidence to successfully navigate the installation process from start to finish. To facilitate a successful journey for both consumers and installers, the industry will have to adapt to support them throughout their journey. This includes providing accessible, high-quality training, establishing reliable logistics and supply chains, and offering clear, expert guidance to simplify the transition and build trust in the technology.

This report sets out Wolseley's view on the changes required for the transition from gas boilers to heat pumps to be a success. The report covers the transformation needed in the logistics supply chain and across the heat pump workforce at a regional and national level. It also highlights the key challenges and opportunities in engaging installers and consumers to make the switch to heat pumps. Through this, Wolseley aims to set the scene for a merchant's view of the transition. The report has the following key messages and findings:

- **Greater supply chain capacity is needed to achieve a heat pump home retrofit. The transition to heat pumps will double pallet volumes moving through the supply chain by 2035, demanding a bold rethink and transformation of logistics.**
 - o **Heat pump baskets¹ are nearly 15 times heavier than a gas boiler.** A typical air source heat pump basket is 652kg, whilst a typical gas boiler basket is 45kg.
 - o **More warehousing space will be required.** One standard pallet holds six gas boilers, but requirements differ for a heat pump. A heat pump unit requires one oversized pallet, alongside two standard pallets for the cylinder, radiators, pipework and other ancillaries. As such, local branches cannot stock heat pumps efficiently, requiring large, centralised warehouses that can stock high volumes to meet demand.
 - o **Logistics must adapt to delivering the majority of air source heat pump baskets to site as installer collection is impractical.** The majority of installers collect gas boilers from local branches, but owing to weight and space limitations it is impractical to collect a heat pump. Amongst the Wolseley network, 60% of gas boilers are collected from branches and 40% are delivered. Consequently, the existing final mile transportation network will need to transform to a majority delivery model to deploy heat pumps at scale.
- **Regional differences in workforce needs create challenges for meeting the recommendation of 1.5 million annual heat pump installations by 2035.**
 - o **Urgent workforce expansion is essential to achieve the recommended 2035 heat pump installation level.** While current training levels meet demand in 2025, the workforce must grow nearly sevenfold to reach 154,000 by 2035. If the current growth rate supported by the Heat Training Grant continues, the workforce will meet demand until 2032. However, a shortfall of 44,368 installers is still projected by 2035.
 - o **Acute regional workforce gaps persist to meet forecasted heat pump demand by 2035.** Seventeen county areas require large increases in heat pump engineers by over four-fold to meet demand. For example, increases are eightfold for Lancashire, seven-fold for Greater Manchester, and six-fold for London. In contrast, fourteen counties require at most a doubling of trained heat pump engineers to meet forecasted demand.

¹ A 'basket' is all of the component parts needed for an installation and includes the heat pump or boiler itself as well as its ancillaries (such as radiators, cylinder, and pipework). The basket is loaded onto one or more pallets.

- **The transition to heat pumps offers clear benefits for both installers and consumers, but there are still practical and structural hurdles to overcome.**
 - o **Increased consumer confidence and incentives are needed to encourage heat pump purchases and attract more installers into the sector.** Consumer demand is the fundamental driver of obtaining a trained installer base. Driving consumer confidence by sharing success stories and busting myths is a first step, but grants, finance, and addressing the spark gap are key to alleviating cost barriers to stimulate demand.
 - o **The current workforce is ageing but bringing in younger and more diverse tradespeople can help close the gap and speed up the transition to heat pumps.** A significant proportion of gas engineers are over 55 with little incentive to retrain into heat pumps. However, installers under 35 demonstrate a stronger focus on renewable technologies than any other age group.
 - o **Practical experience with heat pumps helps build a confident, skilled workforce whilst also encouraging consumer uptake.** While formal training provides foundational knowledge, hands-on learning equips installers with the skills and assurance needed to deliver high-quality installations and effectively educate consumers.
 - o **Financial incentives can encourage installers to switch to heat pumps, but the process must be made quicker and less complex.** Even with financial support through the Heat Training Grant, time pressures, training costs, and lost income from time off the tools remain major barriers for installers. To scale up installer capacity, it is essential to address cash flow issues through credit options and make bespoke design and commissioning processes simpler.
- **To support the Government's ambitions to deliver low-carbon heating in buildings, Wolseley has developed a series of services which will facilitate this transition at scale.**
 - o **End-to-End Support for Installers:** Wolseley's Renewables Centre is a dedicated brand supporting heating professionals through the low-carbon transition. It offers a fully integrated solution through accredited training, Microgeneration Certification Scheme (MCS)-certified design, technical support, and access to high-quality renewable products.
 - o **Building a Skilled, Confident Workforce:** In partnership with NAPIT, Wolseley is delivering five accredited training courses across eight UK locations, aiming to train 5,000 new installers by 2030. It funds training in Wales and Scotland, complements the Heat Training Grant in England, and supports new installers with free MCS designs. The Nesta-backed Start at Home scheme provides hands-on experience, enabling installers to build confidence by installing a heat pump in their own homes.
 - o **Simplifying Delivery and Installation at Scale:** Wolseley offers fast estimates, MCS-compliant designs, and administrative support. This reduces paperwork and streamlines access to grants. Recognising the logistical demands of heat pumps, Wolseley is transforming its logistics model from local collection to final mile delivery, backed by centralised warehousing and real-time stock visibility to support scalable deployment.



Recommendations for Government

To accelerate the transition to renewable home heating, Wolseley has developed policy recommendations to address training, installation, and supply chain challenges highlighted in this report. We invite the Government to work with us in shaping a robust policy framework to effectively decarbonise domestic heating. We recommend that the Government:

- **Set out a clear, long-term implementation timeline for policy schemes, regulations, and the technologies underpinning home decarbonisation within the Warm Homes Plan.** Wolseley have deployed considerable capital to align the business with and support installers through the low-carbon transition. Wolseley are expecting to increase this investment over the next two years. However, for us to confidently invest further, a more detailed policy implementation plan is needed. Clear and secure timelines for policy implementation in new build and retrofit markets would allow Wolseley to invest in scaling up heat pump capacity and installer support.
- **Extend the Heat Training Grant to March 2029 and to Scotland and Wales in line with this parliamentary term.** Trained heat pump installer numbers have grown from the Heat Training Grant but remain below anticipated requirements. The grant ends in March 2026, creating a retraining cliff edge for installers. Extending the grant to the end of the parliamentary term and across Wales and Scotland will improve UK-wide access. This will encourage installers to continue retraining, strengthening the workforce to meet rising demand.
- **Ensure effective consumer protection within clean heat schemes.** Building trust in government and renewable technologies requires strong consumer protection. Heat pump installations are more complex than boilers, making safeguards against poor-quality work essential. Supporting consumers through a clear and simple route for redress would ease complexity and clarify accountability, improving confidence. Wolseley supports efforts to build on existing quality assurance frameworks to strengthen protections and looks forward to working with Government on ensuring consistent safeguards are in place across the country.
- **Develop policy scheme rules and regulations to support a technology agnostic approach to homes decarbonisation.** Most homes are suitable for heat pumps, but some require alternative electric technologies. Updating policy scheme rules and regulations to accommodate different types of quality-assured heating technology can encourage the market to install measures where they are most cost-effective and technically feasible whilst ensuring that homes are matched with their most suited technology.
- **Where technically feasible and cost-effective, policy should ensure that wet heating systems operate effectively at a low-flow temperature, getting homes heat pump ready.** In cases where households cannot afford to upgrade their existing gas heating system, existing combi-boiler systems can be optimised to operate at a low-flow temperature. Homeowners can benefit from system efficiency, cost savings and familiarity with a low-flow system, paving the way for heat pumps.
- **Ensure timely formation of Combined Authority's Local Growth Plans and encourage public-industry collaboration. Regional authorities need clear strategies to address regional barriers to home decarbonisation.** Combined Authorities must publish 10-year Local Growth Plans promptly and work closely with industry to identify challenges and co-develop solutions.



Introduction

The UK Government has a legally binding target to reach net zero by 2050, with an interim target of reducing greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels.² Residential buildings are the second highest emitting sector in the UK economy, accounting for 12% of the UK's emissions. Therefore, decarbonising the UK's homes is key to meeting net zero. By 2040, emissions from residential buildings need to be reduced by 14% to meet the Climate Change Committee's (CCC) Seventh Carbon Budget. The decarbonisation of fossil fuel space and hot water heating will be central to this emissions reduction as space heating and hot water make up 96% of emissions from residential buildings.³

Currently, 71% of new homes include fossil fuel boilers, with 1,359,300 gas boilers sold in 2024.^{3,4} Due to the diversity of the UK's housing stock, various renewable technologies will be required to shift away from fossil fuel systems. According to the CCC's Seventh Carbon Budget, individual heat pumps are expected to make up 75% of low-carbon heating systems installed by 2040, whilst low-carbon heat networks and direct electric will make up 9% and 13% respectively.³ Around 8% of UK homes already use direct electric, however, only 1% use a heat pump.⁵ Heat pump installations must reach 52% of existing homes by 2040 to meet the CCC's Seventh Carbon Budget Balanced Pathway.³ Therefore, heat pump deployment represents a significant challenge in the UK's decarbonisation journey.

The UK's transition from fossil fuel heating to renewable systems presents a complex shift for the built environment, requiring active engagement from homeowners, installers and the supply chains they rely on. Homeowners must adapt to new ways of heating their home, often involving unfamiliar technologies, and have confidence in both the efficacy of the solution and the quality of installation. There is currently no mechanism that requires homeowners to change their heating system, meaning uptake relies entirely on voluntary action.⁶ Compounding this challenge, the number of trained installers, as well as the number of those who go on to install renewables once certified, acts as a major bottleneck. These, alongside lowering the capital and operating costs of renewable solutions, represent important prerequisites for unlocking consumer demand. Accordingly, heat pump uptake faces dual challenges of both supply and demand. Unlocking these barriers is crucial for creating a compelling market for gas engineers to move into the renewables market, subsequently driving training uptake.

Heat pumps will play an important role in achieving net zero, however increasing the uptake of these systems presents a number of unique challenges. For the transition to heat pumps to occur at the scale and speed required, both installers and homeowners must buy in to heat pumps. Policy will be critical to bringing these installers, consumers, and industry along on the journey. For example, a key challenge which is currently under recognised is the need to increase transportation, storage and delivery capacity within the supply chain. Heat pumps and their ancillaries present logistical complexities because they are heavier and require more space than gas boilers. Addressing this will require a series of long-term policy commitments to allow time for the supply chain scale up. If left unaddressed, it will risk stalling progress in decarbonising homes.

This report sets out Wolseley's unique vision on the challenges associated with transitioning the sector to heat pumps. Wolseley's market position offers insight and solutions to enable greater heat pump deployment including:

- A review of the decisions, challenges, and opportunities presented to both installers and homeowners when making the transition from gas boilers to renewables, gained from Wolseley's survey of over 1,300 installers and 2,000 homeowners in the UK and Europe.²
- This offers insight into the current state of play for transitioning to heat pumps.
- Analysis of the need to transform distribution and logistics, demonstrating how the move from a collection to delivery model requires drastic investment in storage and delivery infrastructure to meet demand and government targets.

- An assessment of whether heat pump installer training rates are currently on track to meet heat pump demand. Wolseley's modelling has estimated the number of trained installers required to meet the CCC's projections for heat pumps in 2035, compared against the current rate of training. This covers Combined Authority areas, and counties across England to map the heat pump training gap regionally and support regionally devolved policy decisions.

Wolseley has used these insights to inform a set of policy recommendations for accelerating the installer transition to renewables and the growth of the heat pump market in line with net zero aspirations.



II Commissioned by Wolseley, Boston Consulting Group surveyed a base of 2,004 homeowners and 558 installers, and Eureka! surveyed a base of 761 installers.

Policy Overview

Government policy is key to overcoming barriers and unlocking growth across the renewable sector. This section explores how stable, long-term policy frameworks boost consumer demand, support industry investment, and encourage installer training.

UK Policy

UK policy has been the main driver of heat pump adoption across the domestic sector, with sales continuing to grow year-on year. Key policy successes include increasing the value of the Boiler Upgrade Scheme (BUS) grant, prioritising heat pumps within the Energy Company Obligation (ECO) via the off-gas grid hierarchy and offering enhanced grant levels for low-carbon heating through the Warm Homes: Social Fund and Warm Homes: Local Grant. In 2024, a total of 98,354 heat pumps were sold.⁷ Between June 2024 and 2025, there were 46,423 government-supported heat pump installations representing a 30% increase compared with the previous year.⁸ The BUS and Energy Company Obligation 4 (ECO4) are currently the dominant drivers, accounting for 60% and 31% of installations respectively.

Government has set a target of building 1.5 million new homes this Parliament, with the Future Homes Standard (FHS) expected to drive heat pump installations in most of these properties, alongside solar PV, and battery storage.⁹ In addition, higher Minimum Energy Efficiency Standards (MEES) for the private rented sector (PRS) and social rented sector (SRS) will require approximately 4.45 million properties to be upgraded to EPC C.^{10,11} Reforms to EPCs are also expected to incentivise heat pump installations. Demand for heat pumps will therefore increase markedly, requiring greater supply chain capacity. The FHS, and increased MEES for both the PRS and SRS are awaiting confirmation from the Government. This uncertainty around the timing and scope of policy implementation is undermining market confidence and deterring investment.

Policy certainty over the next five years is essential to enable growth, attract and train the necessary workforce, and ensure consistent, high-quality installations at scale. High volumes of policy driven heat pump installations are expected over the next five years. Given that the typical lead times to scale the supply chain are 3-5 years, without clear, long-term policy commitments, the early investment and planning for scaling production, logistics, delivery cannot be completed in time to meet anticipated demand.

By confirming a long-term implementation timeframe for policy in the Warm Homes Plan, the supply chain can successfully meet demand. Figure 1 demonstrates how policy can drive progress to meet the CCC's recommended 1.5 million annual installations of heat pumps. ECO, BUS and the FHS can drive the majority of installations to 2035.

Projected and Recommended Heat Pump Installations

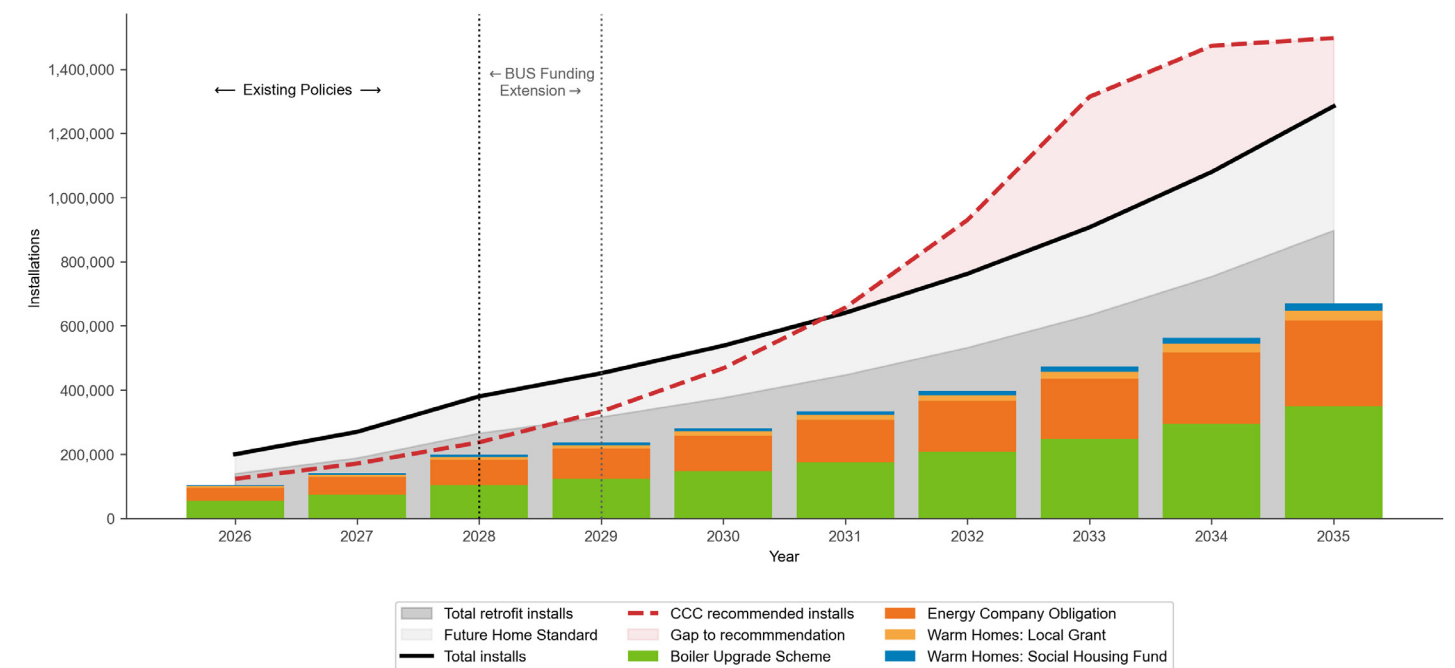


Figure 1: Projected heat pump installations vs CCC heat pump installation recommendation³

The future of the UK's heat decarbonisation strategy remains uncertain, with several key schemes approaching their scheduled end dates and others awaiting confirmation. The Heat Training Grant (HTG) (applies to England) has funding secured until 2029/30, but the longer-term policy direction remains unclear. ECO4 (applies to Great Britain) is set to end in 2026. The expected next iteration of ECO is anticipated but has not yet been formally confirmed through consultation, and the funding envelope for years four and five of the Social Housing Fund has yet to be set out.

Although £13.2 billion has been allocated during this Parliament for the Warm Homes Plan, which funds these schemes, further policy action is needed to accelerate heat pump installations. Wolseley recognises that subsidies cannot continue indefinitely; however, they remain essential to bringing the heat pump market to a self-sustaining level. As shown in Figure 1, ending these schemes prematurely risks stalling progress towards the CCC's recommended level of heat pump installations in 2035. Even if the current programmes were extended to 2035, there would still be a shortfall of around 1.2 million heat pumps between 2031 and 2035. Securing the workforce number required to install heat pumps at the pace and scale needed is crucial. The Clean Energy Jobs Plan recognises plumbers, heating installers, and electricians as vital to meeting the Government's clean energy ambitions.¹² These occupations, along with other skilled construction and building trades, are projected to grow from approximately 21,000 jobs in 2023 to 57,000 jobs by 2030. To decarbonise heat in buildings and improve energy efficiency, the Department for Energy Security and Net Zero (DESNZ) estimate a workforce growth from 66,000 in 2023 to 248,000 in 2030.

However, barriers exist for expanding the workforce. Uncertainty surrounding grant programmes and policy frameworks has created insecurity for businesses and installers seeking to upskill their staff, which in turn has led to job instability. The sector is dominated by microbusinesses¹³, which makes training and expansion into new markets more challenging and resource-intensive than for larger firms. Several policies are in place to increase workforce numbers in the heating sector. The HTG provides subsidised training for heat pumps, which has led to a significant rise in the number of qualified installers. This success, combined with previous market growth in the heat pump market, has resulted in 24,000 trained installers.¹⁴ While this is sufficient to meet current demand, the workforce will need to expand substantially to deliver the 1.5 million annual installations required by 2035.

At the present rate of training, a skills gap is expected to emerge by 2032 unless training provision increases. Should training rates fall or plateau, the gap would arise even sooner. Phase 1 of the Warm Homes Skills Programme offers additional subsidised training for up to 9,000 retrofit professionals and renewable or energy efficiency installers in England.¹⁵ Although the scheme runs only until July 2026, it can help build ongoing workforce capacity.

III DESNZ heat pump deployment statistics⁹ and EPC data were used to project policy and FHS installations to 2035. PRS and SRS MEES are not modelled owing to EPCs currently not incentivising heat pumps. The CHMM is not modelled owing to installation credits being installed in policy schemes and regulations.

Nevertheless, challenges remain. Not all trained installers go on to fit heat pumps, with 74% of those trained through the HTG failing to complete a single installation within six months of qualifying. Further issues include training drop-out, installer attrition, and fluctuating consumer demand. Encouraging installers to remain active in the market therefore continues to be a key challenge.

The Warm Homes Plan, supported by the introduction of the FHS, has the potential to sustain consumer interest, create a stable and attractive market for renewable heating installers, and provide the long-term certainty needed for industry to invest with confidence. Aligning these policies will be critical to ensuring a smooth transition to warm, affordable, net zero homes, while also supporting the creation of thousands of skilled, long-term jobs across the UK.

Nationally Devolved Policy

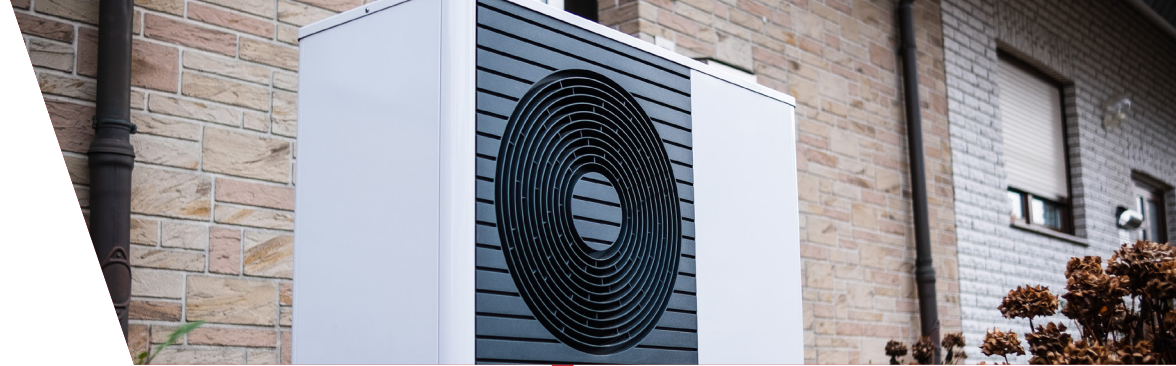
Whilst England represents the largest market for heat pumps in the UK, the CCC's annual heat pump installation recommendation applies to Scotland, Wales, Northern Ireland, and the Isle of Man. It is therefore important to consider how nationally devolved policies are performing and contributing to the of both heat pumps demand and a skilled installer workforce. Northern Ireland and the Isle of Man are not included because their current policy framework for deploying heat pumps is minimal. According to MCS, Northern Ireland accounted for just 0.077% of UK installations in 2024.¹⁶

The Scottish Government's policy framework was previously well aligned with long-term climate targets and supported by stable funding, creating a more certain, reliable, and investable environment for both consumers and industry. The Home Energy Scotland Grant and Loan help homeowners in Scotland install clean heating systems and energy efficiency measures, with funding of up to £16,500 generally sufficient to cover the full cost of a heat pump. Social housing providers can access grant support through the Social Housing Net Zero Heat Fund. Together, these schemes have contributed 29,763 MCS-certified heat pump installations since 2020.²¹ The MCS Certification Fund is used to incentivise and support installers to retrain in installing heat pumps, paying up to 75% (maximum of £1,000) of MCS certification fees. However, it does not fully cover training costs or compensate for time away from work. With the scheme due to end in March 2026, installers will face a cliff edge in certification support if it is not extended.

However, changing political priorities, delays to legal frameworks, and a focus on improving the fabric of buildings are slowing progress towards the Scottish Government's ambition to convert over one million homes to low or zero-emission heating by 2030. This has further discouraged what was already a low level of uptake^{17,18,19} For example, the Heat in Buildings Bill has been delayed and annual and interim climate targets, along with the legal requirement to replace fossil fuel heating by 2045, have been scrapped. Meanwhile, in the recent Scottish MEES consultation, it was proposed that landlords would be unable to let their properties unless they achieved an EPC Heat Retention Rating of C. While we recognise the importance of improving the fabric of the UK's building stock - particularly in properties where heat pumps and other low-carbon technologies will not be able to operate efficiently - it is imperative that, if recommended heat pump installations are to be met, there is a more joined-up policy approach.

The Welsh Government has set out a clear policy direction through its 2024 Heat Strategy and associated funding programmes.²⁰ The strategy includes a target of 580,000 heat pumps installations by 2035, building on the 22,620 UK Government-supported installations delivered in Wales since 2020.²¹ Key actions to accelerate deployment include reforming planning regulations, supporting innovation in renewable technologies, expanding installer training, and improving public engagement. Proposals in recent consultations on Building Regulations Part L and permitted development rights would further encourage up heat pump and bring greater alignment with policy in England.^{21,22}

With a clear timeline on its implementation, Welsh policy provides confidence for industry investment. As the HTG does not extend to Wales, the Flexible Skills Programme has been introduced as a first step towards building the required workforce. Employers can apply for funding to cover up to 50% of accredited training costs, up to a maximum of £50,000 per application.²³ Under the Net Zero Skills strand of the programme, some of the costs of training to become a heat pump engineer can be alleviated. However, gaps remain in covering the cost of time off tools for installers.



Regionally Devolved Policy

England is moving towards a regionally devolved policy framework, redistributing political, economic, and social powers to devolved authorities.²⁴ This shift will enable Combined Authorities to exercise greater control over their policy priorities, the allocation of funding, and the ways in which they address local challenges. This will allow them to develop longer-term strategies in areas such as the built environment, energy efficiency, and skills. For example, the West Midlands Combined Authority and the Greater Manchester Combined Authority have secured integrated settlement funding pots for 2025 to 2028, worth £318 million and £242 million respectively, to support retrofit and skills initiatives.^{25,26} As attention increasingly turns to localised challenges, and regional authorities acquire greater policy flexibility, there is a growing need for robust research into how the transition to renewable energy affects local areas, in order to ensure effective policy development.

Learnings from Europe

Learning from successful heat pump policies in mature EU markets can help shape more effective UK strategies, accelerating uptake through proven interventions.

In 2023, more than 3 million new heat pumps were installed across Europe, with market shares reaching 94.8% in Sweden, 41.4% in France and 23.3% in Germany.^{3,27} However, in 2024 sales fell by an average of 21% across 14 European countries - including France, Germany, Norway, Denmark and Sweden when compared with the previous year. This decline was driven range of factors, including by reduced government financial support, the higher cost of electricity relative to gas, slow economic growth and wider cost-of-living pressures.²⁸ As displayed in Figure 2, the UK still has lowest uptake of heat pumps in Europe.

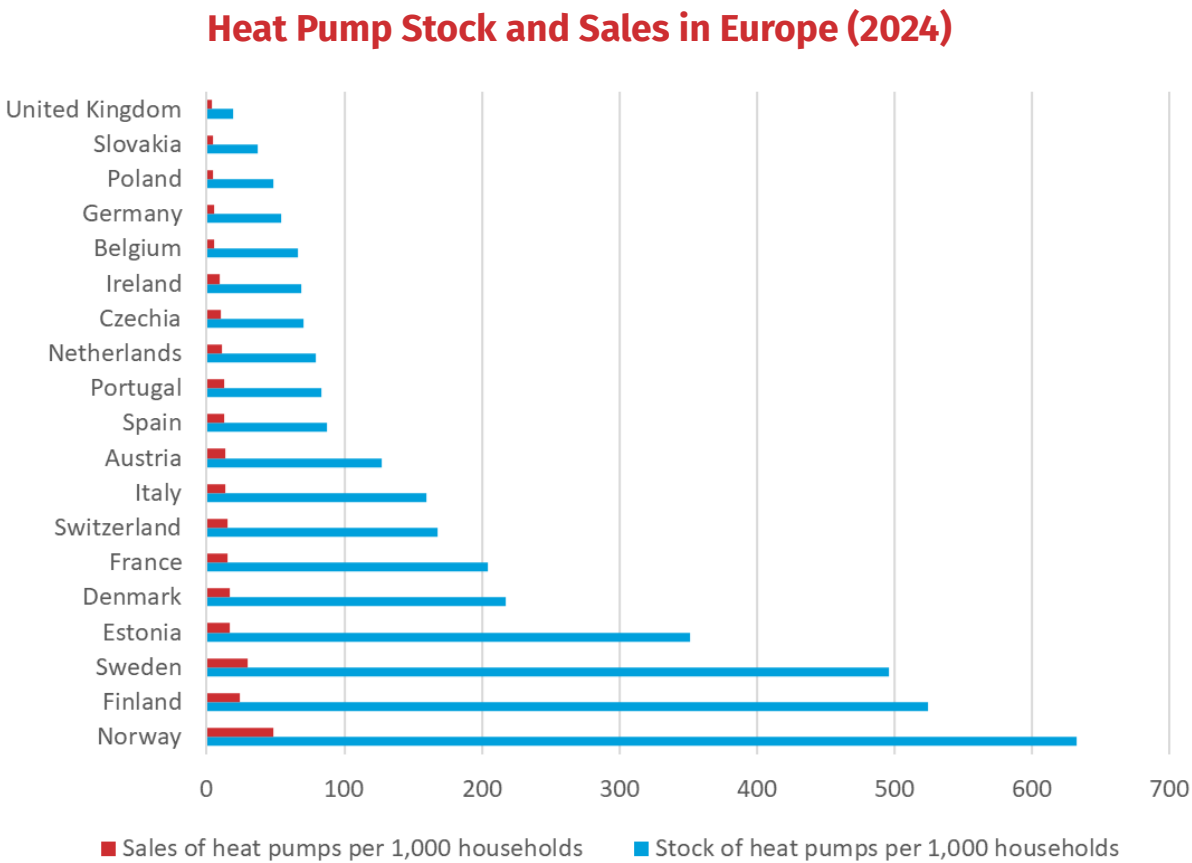


Figure 2: Heat pumps stock and sales in Europe.²⁹

Table 1 shows the European policy initiatives driving heat pump uptake. The case studies in the table demonstrate that long-term, credible plans - combining financial incentives, regulation, public engagement, and training - are essential to driving private investment, workforce development, and heat pump uptake. The 21% drop in sales in 2024 across Europe following reduced government support illustrates the risk of relying too heavily on subsidies: when support is withdrawn, both industry and sales face a cliff edge. A blended approach, underpinned by secure and long-term policy, is therefore needed to ensure consistent installation rates.

Long-term Market Signals

One key lesson from the successes in Sweden and France is the effectiveness of long-term financial incentives and pricing mechanisms in driving heat pump adoption. Sweden introduced a carbon tax in 1991 and has progressively increased it; by 2022–23, tax rates on most fossil heating fuels exceeded €100 per tonne. This, together with other fiscal measures, has shifted the economics in favour of heat pumps. In 2023, Sweden’s electricity-to-gas price ratio stood at 1.22, and such pricing signals help to explain why heat pumps now account for around 93% of the Swedish space-heating market that year.³⁰

Meanwhile, in the UK, ongoing challenges with the price of electricity relative to gas persist. A recent analysis by the Sustainable Energy Association on levy rebalancing and lifetime ownership costs highlights that, while levy rebalancing is a valuable first step, it is not sufficient on its own to drive widespread uptake of heat pumps.³¹

Workforce and Training

Another important lesson is the value of investing in workforce development and practical training to ensure high-quality installations. Sweden’s long-standing training pathways and municipal adult-education schemes, combined with a strong installer market, have supported both high standards and high sales volumes. France complements public measures with third-party financing and advisory networks such as the *Serafin* model, which in recent years has helped to scale up audits and renovations while unlocking additional finance.

France’s support package also demonstrates the benefits of combining multiple instruments. Measures such as the zero-rate eco-loan, *MaPrimeRénov’* grants, VAT reductions and installation bonuses have all helped accelerate deployment. In 2022, France recorded particularly high heat pump sales, and since its launch in 2020 around two million households have applied for *MaPrimeRénov*.

Regulation

Regulatory frameworks and public engagement are also critical. France’s *Réglementation Thermique* standards and subsequent measures, together with the France *Rénov’* scheme, have made advice and application processes simpler and more accessible.

Germany’s package, including support through the *Bundesförderung für effiziente Gebäude* and the requirement that newly installed heating systems provide at least 65% of heating from renewable sources from 2024, demonstrates how regulatory requirements and financial incentives can work together to create stronger and more predictable markets for both consumers and investors.³²

Heat Pump Type

Finally, the dominant type of heat pump technology must be considered. In Sweden, air-to-air systems are common, as many homes lack hydronic heating.³³ Their lower capital cost and simpler installation have also supported widespread uptake.³⁴ By contrast, the UK’s housing stock makes air-to-water pumps more prevalent, since hydronic heating systems are already in place.

Regulatory treatment and funding eligibility also differ by technology. Air-to-air systems, for example, are excluded from permitted development rights, treated as a ‘last resort’ in building regulations, and are not eligible for the same funding schemes as air-to-water systems.³⁵ Although currently under review as part of the BUS consultation, there remain concerns around operating costs and energy demand from the UK Government.

Table 1: European policy initiatives driving heat pump uptake

Country	Intervention	Explanation & Impact
Sweden	Electricity Prices	Introduced a carbon tax in 1991, which increased from €21/tCO ₂ to €102/tCO ₂ in 2022; this tax significantly changed the price ratio between gas and electricity, resulting in an electricity-gas price ratio of 1.22 in 2023, which makes electricity-powered heat pumps financially attractive compared to fossil fuels. ^{36, 37, 38}
	Financial Incentives (Tax Rebate)	Since 2009, the Government has provided a 30% tax rebate for the labour cost of installing heat pumps in existing homes, up to €5,000 per year; this consistent financial support has been a key driver for Sweden consistently achieving around 100,000 heat pump installations per year over the last decade. ^{39, 25}
	Financial Incentives	Since 2023, a subsidy has been provided for single-family homes with direct-electric heating, where the grant can be used to cover 50% of the cost (or up to €5,150) of upgrading their heating and hot water to a more efficient system like a heat pump. ^{40,41}
	Training	There are several paths to becoming a heat pump technician, with a key feature being practical training through municipal adult education that pairs work-based learning at a company with classroom teaching, and many trainees later join their training firms; this focus on practical experience during and after training has been crucial in supporting high-quality installation standards. ^{42,43}
	Public Engagement	The Government ran information campaigns on residential energy efficiency that educated the public about new regulations and highlighted technological solutions like heat pumps to comply with them; this early engagement, which focused on energy security and the potential to lower bills, was key to building public acceptability for the transition. ⁴⁴
France	Electricity Prices	An electricity-gas price ratio of 2.22 in 2023; these high energy prices are a key factor in 10.7% of households struggling to maintain adequate heating and 7.1% being behind on utility payments, creating a challenging context for electrification of heating. ⁴⁵
	Financial Incentives (Loan)	In 2009, France introduced a Zero Rate Eco Loan, providing up to €10,000 for single upgrades like heat pumps or €30,000 for full-home energy improvements; this program has been widely utilised, with 411,077 loans granted, representing an estimated total value of €7.46 billion in financed energy improvements. ^{46,47}
	Financial Incentives (Grant)	In 2019, France introduced upfront grants and the <i>heating boost</i> , offering up to €4,000 to replace polluting boilers. These measures led to an 80 per cent rise in air-to-water heat pump installations, reaching 346,313 units by 2022. The launch of <i>MaPrimeRénov</i> in 2020, which part-funds upgrades and applies a reduced VAT rate, further accelerated uptake. By 2021, over 500,000 grants had been awarded, and by 2023 nearly two million applications had been submitted, cutting emissions equivalent to the annual output of Paris and Lyon combined. ^{48, 49, 50, 51}
	Financial Incentives (Third Party)	Five third-party financing companies united under the Serafin association provide accessible direct or indirect financing for energy upgrades. In 2023 alone, this channel financed 18,000 energy audits, 6,160 home renovations (worth €173.2 million), and issued 1,300 loans valued at €40 million. ^{52,53}
	Regulation (New Build)	France implemented the <i>Régulation Thermique</i> in 2012 for new homes and followed with a ban on gas boilers in new homes in 2022. ⁵⁴ Air-to-water heat pump installations in new homes almost tripled within three years of the 2012 regulation and residential gas consumption decreased by 7.86% between 2022 and 2024. ^{36,55}
	Public Engagement	In 2022, France established France <i>Rénov’</i> , a one-stop-shop model that provides free and independent home energy efficiency advice to consumers online or in person. These advisory services and the streamlined application process have increased accessibility, with 42% of supported households being very low-income, 25% low-income, and 33% middle income. ^{56,57}
Germany	Electricity Prices	Germany had a very high electricity-gas price ratio of 3.35 in 2023. High energy prices are a key factor in 6.6% of households struggling to maintain adequate heating and 4.2% being behind on utility payments, creating a significant barrier and public concern around energy costs. ⁵⁸
	Regulation	As of 2024, all new build heating systems are required to operate with at least 65% renewable energy, and landlords are urged to switch to renewable heating; this policy ensures tenants may benefit indirectly, as landlords can only pass on a portion of the costs (capped at €0.50/m ²) after subtracting subsidies, protecting tenants from the full financial burden. ^{28,59}
	Financial Incentive (Grant)	In 2021, Germany introduced the <i>Bundesförderung für effiziente Gebäude</i> , which offers federal funding through a percentage subsidy (25–40%) for a heat pump; this has contributed to a modest increase in the modernisation rate for owner-occupied homes, which reached just under 1.1% in 2022 and 1% in 2023, up from the 0.8% average seen between 2000 and 2020. ^{28,60}
	Financial Incentive (Loan)	Since 1996, Germany has run the <i>Kreditanstalt für Wiederaufbau</i> energy efficiency schemes in various iterations, providing low-interest loans to finance upgrades. The program’s longevity has provided stable support, financing approximately 300,000 dwellings in 2017 alone, which accounted for about 39% of new construction in Germany that year. ^{28, 61}

Transforming Logistics within the Supply Chain

Heat pump demand will need to increase almost 15 times the current rate over the next 10 years. As a result, the logistics supply chain will need to evolve to shift significant volumes to homes and businesses across the UK. The ability for manufacturers to meet increased volumes is a well-researched and recognised issue and a challenge the industry is confident they can address. But there is less research on the impact of increased heat pump volumes on the transportation, storage, and delivery systems across the supply chain or how they will have to adapt.

Evidence suggests that UK manufacturers are able and confident in supplying high volumes of heat pumps. This is partly attributable to the diversity of supply comprising of a mix of domestically manufactured and imported heat pumps. Analysis of factory line capacity has suggested that Heat Pump Association (HPA) member manufacturers can exceed the previous government's target of 600,000 annual heat pump installations by 2028 without expanding current factory capacity.⁶³ In 2020, government research found that manufacturers were very confident they could increase supply to the UK market by a minimum of 25-30% year-on-year for the next 15 years.⁶² This demonstrates manufacturer confidence and ability to meet expected increases in demand, particularly in the short to medium term. However, the logistics supply chain will have to adapt significantly to move these volumes to consumers efficiently.

Heat pumps and boilers are moved through the supply chain on pallets. The number of products that fit on a pallet directly affects how efficiently goods move through the supply chain, impacting storage, transport, and delivery capacity. Air source heat pumps (ASHP) are larger and heavier than a gas boiler, creating significant logistical challenges. For example, a standard pallet can hold six gas boilers, whereas an oversized pallet typically accommodates only one ASHP. This difference means warehousing capacity will need to expand, with larger, centralised facilities likely required. Beyond storage, moving ASHPs through the logistics supply chain and final-mile delivery is also more complex. The shift from boilers to heat pumps will therefore demand major transformations to storage, distribution models and final mile transportation.

The logistics supply chain is currently optimised for gas boilers, which are compact and lightweight. However, processes are beginning to scale up to cope with the greater weight and spatial requirements of ASHPs. A typical ASHP basket^{IV} weighs around 652kg, nearly 15 times heavier than a 45kg gas boiler basket^V, and requires three pallets instead of one for installation. For retrofit projects, installers typically collect gas boilers from merchants using 1.5-tonne vans, but ASHPs exceed these vehicles' weight and space limits, making collection impractical. Within the Wolseley network, approximately 60% of gas boilers are collected directly from branches by installers, with the remaining 40% delivered in bulk to new build developments and large-scale retrofit projects. To accommodate ASHPs, this collection model will need to change, with most ASHP baskets needing to be delivered directly to installation sites.

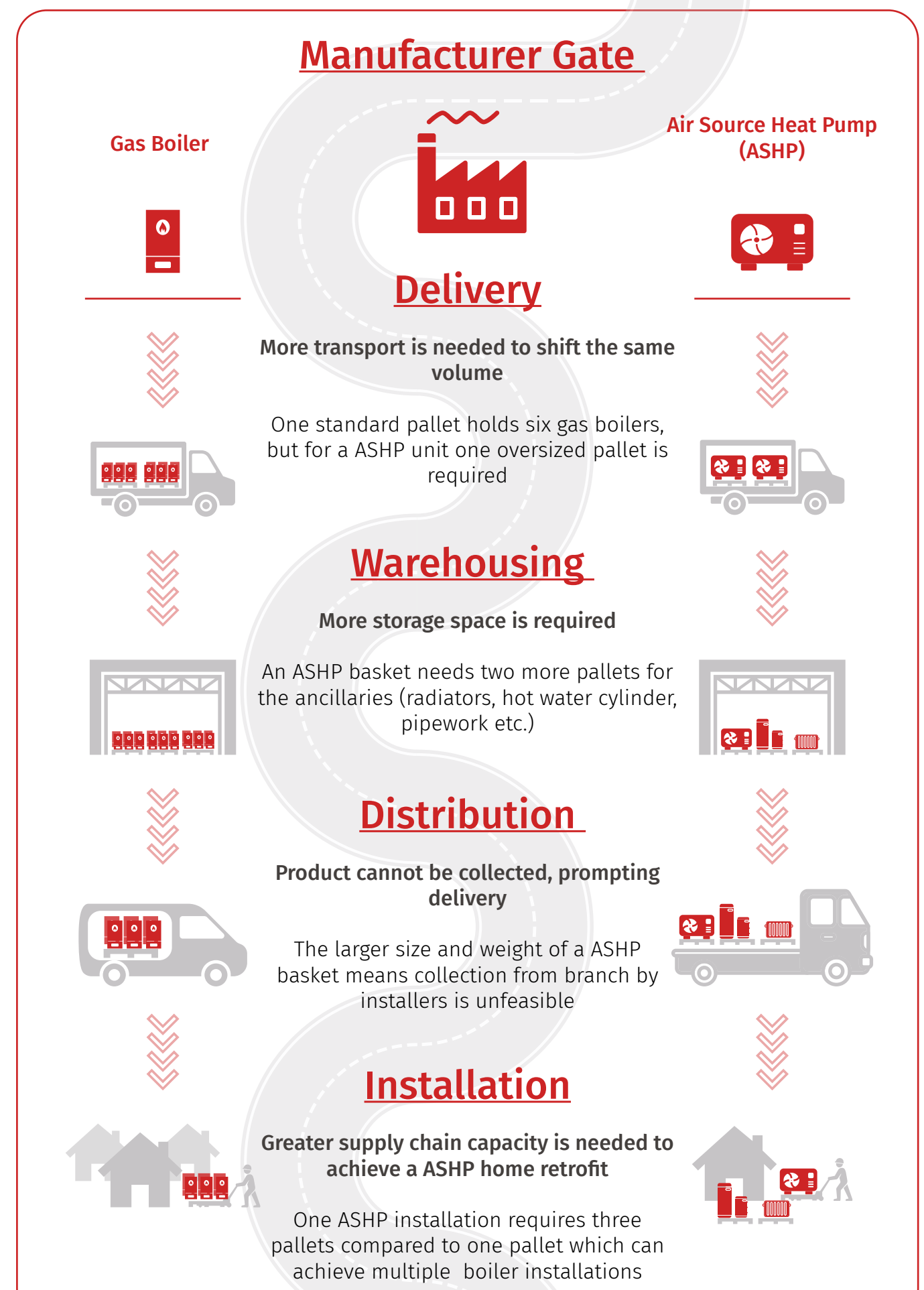
It is expected that these delivery processes will be more complex, as ASHP installations will likely require specialised handling equipment due to the weight of the units, as well as larger delivery vehicles. In retrofit scenarios, deliveries will often be phased. For example, radiators may arrive ahead of the heat pump itself, with the full set of components spread across the three-day installation period. This will increase the frequency of deliveries and require larger vehicles: 40-tonne articulated lorries for warehouse deliveries, and 7.5-tonne to 18-tonne lorries for deliveries to new build, retrofit, and social housing sites.

Figure 3 illustrates the key stages of the logistics process for moving gas boilers and heat pumps from a manufacturer's factory gate to home installation. It illustrates the difference in transportation capacity, packaging and handling, warehousing, and final-mile delivery. Overall, it shows that retrofit installations require significantly greater logistics capacity for heat pumps than for gas boilers.

IV A typical heat pump basket loaded onto a pallet includes a heat pump unit, hot water cylinder buffer vessel, underfloor heating, K3 radiators, larger pipework, and controls.
V In the majority of cases, a boiler-boiler replacement does not require the replacement of the radiators or cylinder. For a gas boiler installation in a new build, a typical gas boiler basket includes the unit, K1 radiators and cylinder, with a lower amount of controls.

Figure 3: Retrofit logistics journey

Retrofit Logistics Journey





The impact on the supply chain varies across the UK. In Scotland, the rural housing stock presents particular logistical challenges, with around 17% of the population living in remote areas.⁶³ Delivery routes for HGVs transporting heat pumps to these locations are less efficient, requiring longer travel distances between sites and facing greater constraints due to limited road access.

To illustrate the scale of this transformation, Figure 4 shows the projected volume of pallets required to meet the CCC's heat pump installation recommendation. Pallets have been used as they provide a clear indication of the volume moving through the supply chain. Over the next 10 years, the number of pallets is expected to more than double.

The National Energy System Operator's (NESO) latest Future Energy Scenario has been used to project the number of heat pump and gas boiler installations to 2035, and to calculate the number of corresponding pallets required. Gas boiler installations are assumed to fall consistently between 2025 and 2035, though this could change based on policy interventions and consumer demand. While this analysis focuses on hydronic heat pumps as the primary technology for decarbonising homes, other renewable technologies will also scale, requiring further supply chain adaptation. These include alternative heat pump types (e.g. air-to-air), electric heating solutions (e.g. direct electric heaters), and heat networks.

Projected Pallet Volume in the Supply Chain from Heat Pump and Gas Boiler Installations

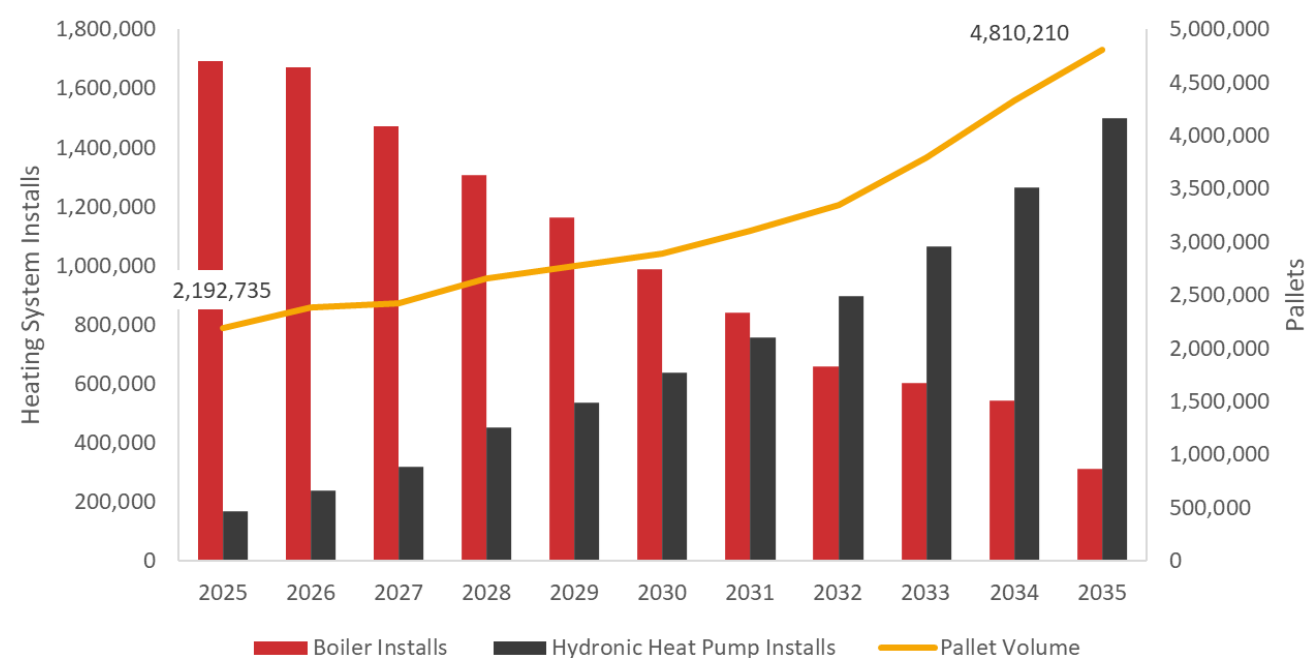


Figure 4: Projected pallet volume in the supply chain from heat pump and gas boiler installations

Volume moving through the supply chain doubles in the next 10 years

Changes to the regulatory landscape are likely to lead to policy-driven demand spikes that are not modelled in the above scenario, requiring a rapid scale-up of deployment. For example, the FHS is projected to drive heat pump installation in 84.9% of new buildings in 2028.¹⁵ Given the Government has a target to build 1.5 million new homes during this Parliament, this equates to around 254,700 heat pumps installations annually in 2028, a more than ten-fold increase on 2024 levels.⁶⁴ This increase, alongside other policies such as ECO and BUS, will drive non-linear growth in demand heat pump deployment.

To meet the volumes required by these policies, supply chains need a lead time of at least 3 to 5 years to prepare. Wolseley has already invested significantly to align its operations and support installers through the low-carbon transition, with further investment planned over the next two years. To facilitate the transformation of logistics and supply chains, there is a need for a clear, long-term and stable policy landscape. The forthcoming Warm Homes Plan has the ability to provide investment certainty and send the signal for industry to implement the changes required.

Specifically, it is important that policy is implemented across both the new build (FHS) and retrofit market (ECO, MEES, Clean Heat Market Mechanism, BUS, and HTG). Without this alignment, investment in logistics and operations will be constrained, leaving the industry unprepared for a rapid expansion in heat pumps.

Heat Pump Workforce Numbers

Without a sufficiently skilled workforce, meeting the 2035 recommendation for heat pump installations will be unachievable. Installers must be able to design, install, commission, and maintain heat pumps, requiring a blend of plumbing and heating skills. There are key challenges and opportunities in encouraging existing gas engineers to retrain and attracting new entrants into the sector. In this context, the role of experienced service providers who support installers throughout the installation process, such as Wolseley, is becoming increasingly important.

Based on Wolseley's monitoring of local opportunities for heat pump deployment, the Regional Workforce section presents the results of new regional analysis on workforce requirements. Understanding regional variation provides a more nuanced picture of how workforce needs must evolve to align with national targets.



During 2025, the CCC revised its projections for the number of heat pump installations needed by 2035. Additionally, the number of trained installers has increased and policy measures have continued to drive up installation rates.⁴ As such, updating the national workforce analysis helps to determine whether projected needs have shifted in response to these changes.

Understanding the shortage between current workforce numbers and future workforce requirements gives insight into the scale of the challenge ahead and helps to assess whether greater policy interventions are needed. The requirement is impacted by installer attrition and retention, as well as time spent installing heat pumps alongside balancing other trades. National workforce constraints are well reported, with estimates on the number of trained installers needed ranging from 102,500 by 2035 according to the HPA⁶⁵, to 150,000 by 2028, projected by the Heating and Hotwater Industry Council.⁶⁶ Putting these figures into context, the Government projects that the heat and buildings sector workforce must grow from around 66,000 in 2023 to around 248,000 in 2030 to decarbonise heat in buildings and improve energy efficiency to meet net zero targets.¹¹ This demonstrates the significant contribution heat pump installers will make to the workforce requirement.

National Workforce

To understand the national workforce requirement, government data has been used to project the growth in annual heat pump installations until 2028, drawing on historic heat pump deployment data and policy-driven projections. The forecast for installations from 2028 to 2035 has been calculated using the CCC's projections for meeting 1.5 million annual installations in 2035.

Labour intensities from industry surveys undertaken by the HPA were used to estimate the full time equivalent (FTE) workforce required to install the recommended annual installations.⁷⁶ These intensities are fixed over time but vary by property archetype and technology type. The surveys also identified the proportion of time that heating engineers and plumbers spend installing a heat pump, which was used to calculate the FTE requirement. The proportion of time heat pump installation businesses spend on installation work is estimated to increase from 48% in 2023 to 72% by 2028 to meet market demand.^{76,67}

To estimate the total number of individuals who need to be trained to meet the installation recommendation, a training dropout rate was applied. This rate starts at 39% in 2024⁶ and gradually decreases to 26% by 2035. As the sector matures and opportunities become more stable and attractive, fewer trainees are projected to drop out, improving overall workforce retention. The decline in dropout rate corresponds with the rise in labour utilisation, as both demand and time spent on heat pump installation are projected to increase.

Heating Engineers and Plumbers in the Uk Required to Meet 1.5 Million Annual Heat Pump Installations in 2035

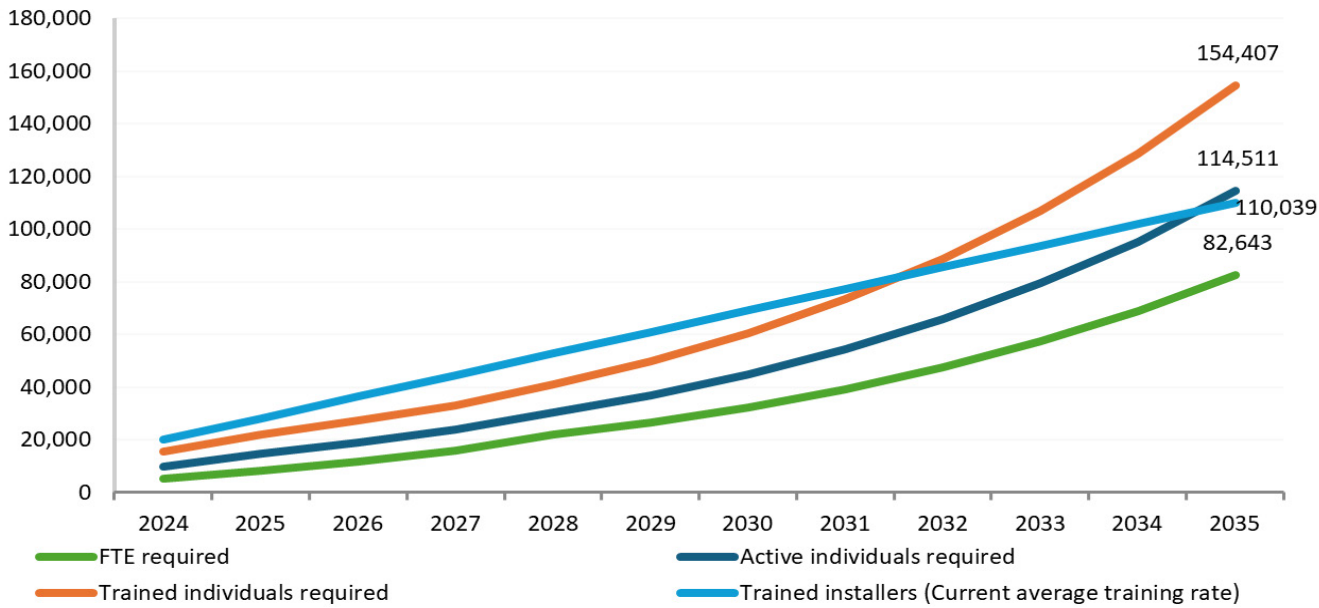


Figure 5: Heating engineers and plumbers in the UK required to meet 1.5 million annual heat pump installations in 2035

Figure 5 shows the total number of heating engineers and plumbers needed to meet the CCC's recommendation of 1.5 million annual heat pumps installations by 2035. Between 2028 and 2035, the total number of trained heating engineers and plumbers will need to increase by 276% to meet the recommended annual installation target, rising from 41,000 to 154,000.⁷ The number of active individuals requires a 283% uplift, rising from 30,000 to 115,000.⁸ Overall, the total number of trained individuals required is almost double the FTE workforce. This is due to heating engineers and plumbers spending time installing other technologies or not working at capacity. With a shift away from boilers, the number of active individuals would fall as they spend more time on heat pumps.

The projections highlight the considerable scale-up required in the heating workforce. As noted in research by DESNZ and Nesta, and further expanded on in the Installer Heat Pump Journey section, those who complete heat pump training do not always go on to complete installations.^{68,69} Modelling in Figure 5 suggests that by 2035, around 40,000 trained installers may not be actively installing. This underscores the risk of failing to sustain consumer demand and support trainees into completing installations. Without action, valuable skills may go unused, weakening the workforce and slowing progress toward net zero.

At the current rate of training, there are enough heating engineers and plumbers to meet demand as of 2025, and this is expected to remain adequate until 2032. However, without an increase in training efforts, our modelling suggests that only 110,000 individuals will be trained by 2035, falling short of the required number by 44,000.

It is crucial to ramp up training in anticipation of rising demand to ensure a readily available workforce from 2032 onwards. Delaying action risks bottlenecks in services and resources from 2032 and beyond. A more gradual increase in training provision would give colleges, businesses, and policymakers the time needed to prepare and implement the necessary adjustments to support workforce growth.

It is important to note that this analysis does not include air-to-air heat pumps. Air-to-air systems make up a very small percentage of the heat pump market at present. However, the most recent BUS consultation consulted on including air-to-air heat pumps, which if moved forward with could drive increased uptake.^{70,54} Greater uptake of air-to-air systems in the domestic sector could help reduce the numbers shown in Figure 5. There are approximately 50,000 F-Gas certified installers who operate in the non-domestic sector who could be drawn upon to install air-to-air heat pumps in homes, thus contributing to the installer workforce in the domestic sector and reducing the need for upskilling.⁷¹

VI

Dropout rate taken from HPA. 2024. Projecting the future domestic heat pump workforce. Available [here](#).

VII Total trained means the total number of heating engineers and plumbers that will need to train to install heat pumps. As trainees do not always go on to complete heat pump installations, this figure is higher than the active individuals.

VIII Active individuals means the number of individuals actively working on heat pump installations. This assumes that a proportion of individuals will not work full-time on heat pump installations for various reasons.

Training in low-temperature heating systems offers a valuable route to expand the skilled workforce needed for heat pump deployment. The Government has committed to making low-flow temperature a mandatory requirement for gas boiler engineers and updates to the Mandatory Technical Competence criteria are expected.⁷² The primary focus of this is to ensure gas engineers design and install wet central heating systems to operate at 55°C where possible, ensuring the system operates efficiently. Setting low-flow temperature can support the transition to heat pumps as gas engineers gain competencies in low-flow temperature design and may choose to upskill to heat pumps given the overlap in required skills.

Regional Workforce

Regional devolution is increasingly influencing policy with regions securing a series of devolution deals and Combined Authorities gaining longer term funding to shape policy at a local level. Importantly, this means formation of localised strategies tackling local housing, energy efficiency, and skills challenges. England’s housing stock differs by region in regard to age and building fabric meaning that the most cost-effective retrofit solutions vary across locations. A devolved approach therefore allows the opportunity to tackle regional-specific housing and skills challenges, moving away from a one-size-fits-all approach. Given this new policy direction, it is important to map the projected workforce regionally. The analysis in this section presents a holistic view of regional workforce requirements across England, complementing existing work by regional authorities.

Given that the majority of future heat pump installations are expected in England, and with policy increasingly devolved to regional authorities, the analysis focuses on English regions.⁷⁶ As shown in Figure 6, workforce requirements vary significantly by county, highlighting the need to better understand how many individuals will need to complete heat pump training in each area.



Figure 6:

Growth Requirement in Heat Pump Installer Workforce from 2025 to 2035

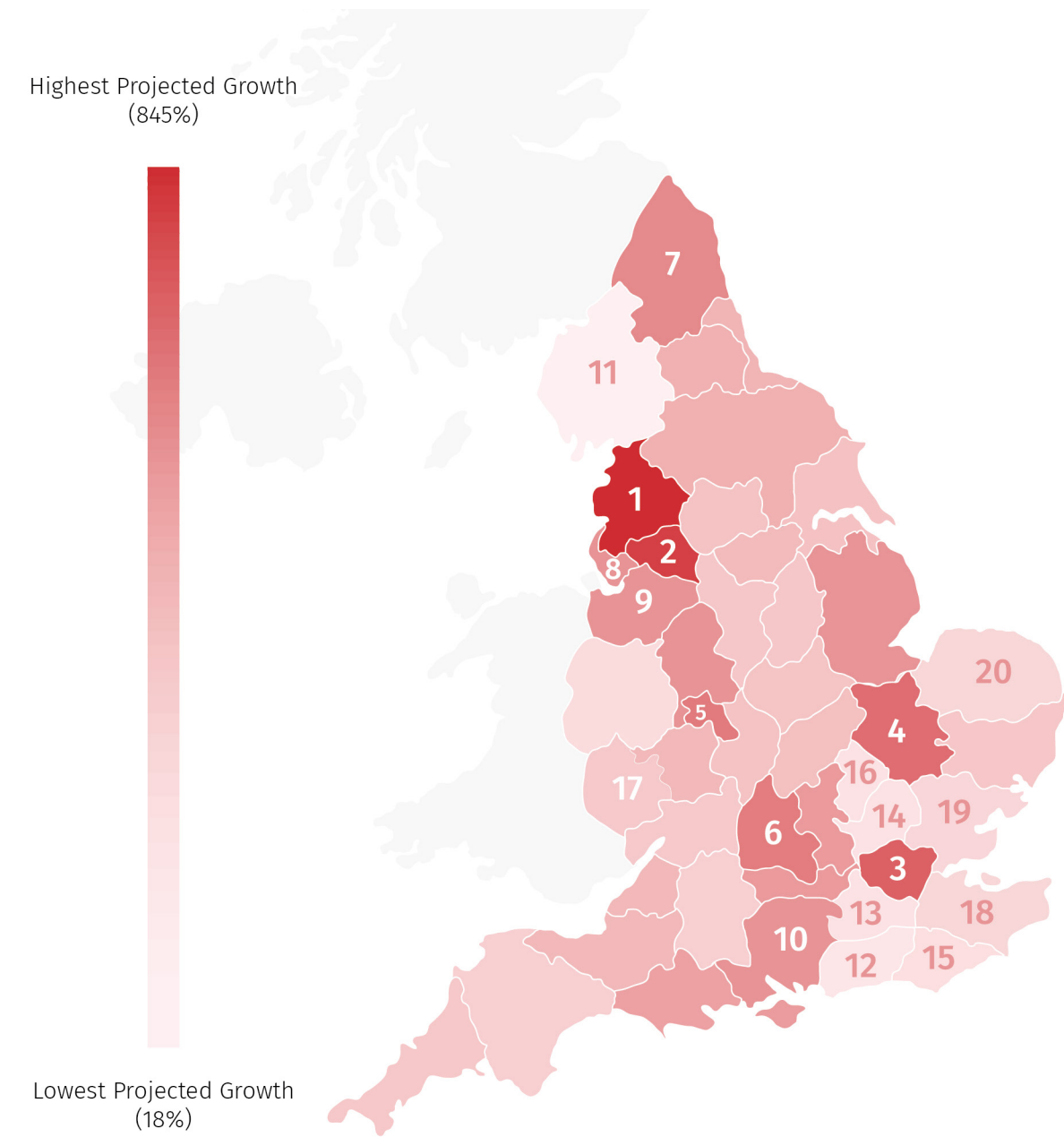


Table 2: Ten counties with the highest percentage workforce growth required

County	Percentage increase required
1. Lancashire	845%
2. Greater Manchester	762%
3. London	626%
4. Cambridgeshire and Peterborough	569%
5. West Midlands	512%
6. Oxfordshire	505%
7. Northumberland	451%
8. Liverpool City Region	443%
9. Cheshire	414%
10. Hampshire	412%

Table 3: Ten counties with the lowest percentage workforce growth required

County	Percentage increase required
11. Cumbria	18%
12. West Sussex	62%
13. Surrey	73%
14. Hertfordshire	75%
15. East Sussex	92%
16. Bedfordshire	96%
17. Herefordshire	98%
18. Kent	100%
19. Essex	124%
20. Norfolk	127%

The ‘Holistic Transition’ scenario from NESO’s Distributed Future Energy Scenario dataset was used to forecast regional heat pump uptake from 2025 to 2035.⁷³ The assumptions applied in the national workforce methodology described above were then used estimate the size of the trained individual workforce requirement to meet the CCC’s recommended target of 1.5 million annual heat pump installations by 2035.

Table 2 highlights the ten counties with the highest workforce growth requirement. The significant increase in required heat pump installers in these areas is driven by a combination of factors. However, there is a clear trend; regions with a lower proportion of households currently equipped with heat pumps face the largest gap between existing workforce size and future needs. Lancashire requires the most substantial workforce expansion. The largest projected increases in the installer workforce are mostly seen across the North West of England. While overall deployment in the region is modest, specific areas such as Lancashire, Greater Manchester, Liverpool City Region, and Cheshire, have high projected workforce requirements. This analysis indicates that the North West should be a key focus for targeted local policy intervention.

Many factors impact a regions ability to scale up, but three are analysed in Figures 7, 8 and 9: notably the availability of heat training providers within an area, the impact of national government policy on local deployment, and the destinations that HTG graduates go on to work. Other factors influencing workforce requirements include building stock, prevalence of fuel poverty, and consumer demand. For example, although deployment in the West Midlands (region) has been moderate in the last year, MCS data shows that the region has the third lowest proportion of homes with a heat pump installed.⁷¹ Fuel poverty is particularly high in the West Midlands (Combined Authority area) at 17.8%, and also significant in the North West and North East at 14.4%.⁷⁴ Low EPC ratings can necessitate additional fabric upgrades to improve heat retention and support heat pump efficiency at lower flow temperatures. In the North West, 51.72% of homes are rated EPC D or below, while in the West Midlands (region) the figure is 50.83%. Consequently, demand is constrained, as many households cannot afford to install or operate a heat pump.

Current training data suggests that some regions have more established training provision. The South East, South West, and East of England account for 44% of heat training providers (Figure 7), representing a substantial proportion of English providers. In the South West, 68% of plumbers and heating engineers report having already completed heat pump training, placing them third among English regions.⁷⁵

The West Midlands (Combined Authority) and Peterborough and Cambridge require significant workforce growth and have a high concentration of heat training providers. In the East of England, Peterborough and Cambridge have workforce needs notably higher than neighbouring areas, as shown in Figure 6, indicating that training provision in this part of the East should focus on these areas to ensure an equitable and targeted approach to workforce development. This presents an opportunity to leverage existing networks to train the regional workforce more effectively. In the West Midlands, which has the second largest proportion of heat training providers, efforts should focus on improving coordination and delivery, while ensuring trainees are supported through to completing installations.

By contrast, the North East faces a moderate gap in the required workforce to meet the recommended 2035 target and has a limited number of heat training providers in the region. This suggests that insufficient training provision could constrain workforce growth in the workforce.



Heat Training Providers

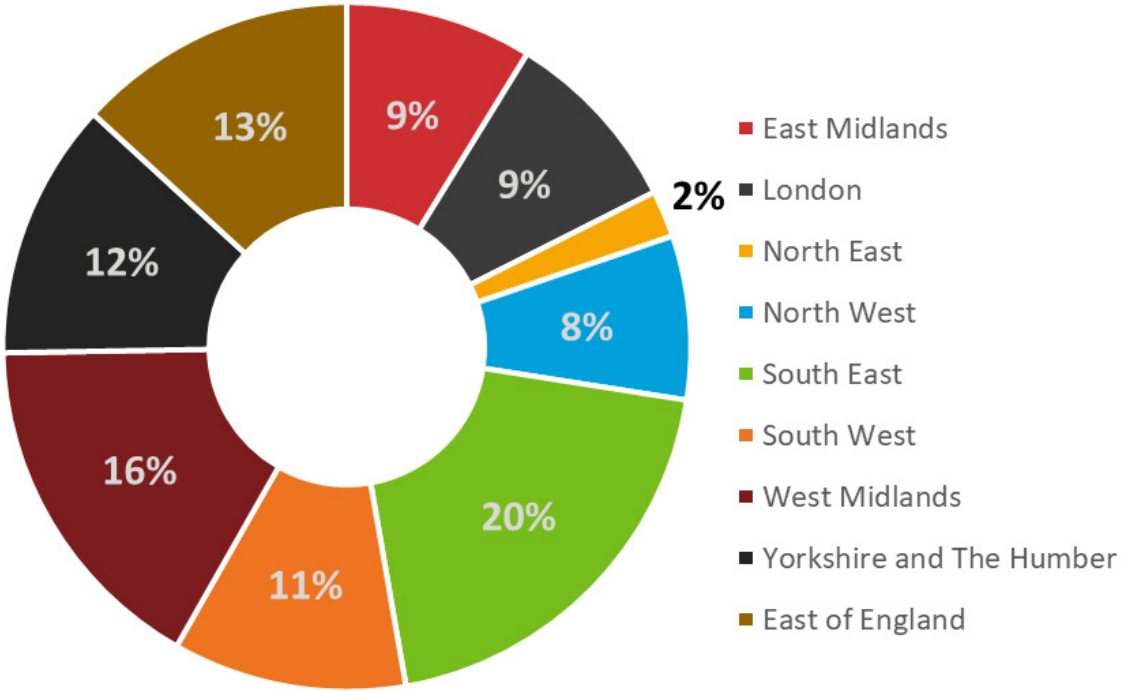


Figure 7: Heat training providers.⁷⁶

Figure 8 shows that 37% of HTG graduates go on to work in the South East, South West or the East, indicating strong training uptake and retention of skilled professionals in areas with high installation activity, or trainees are relocating to areas of higher demand. Research by Nesta shows Devon, Cornwall and Norfolk have higher concentrations of low-carbon heating companies than most English regions.⁷⁷ This suggests these areas benefit from better access to trained professionals and established infrastructure, enabling a strong flow from training completion to actual installations while meeting existing demand. By contrast, London has the highest number of HTG graduates, but heat pump deployment remains low suggesting that investment in training alone will not drive significant uptake.

Where Heat Training Grant Graduates are Working

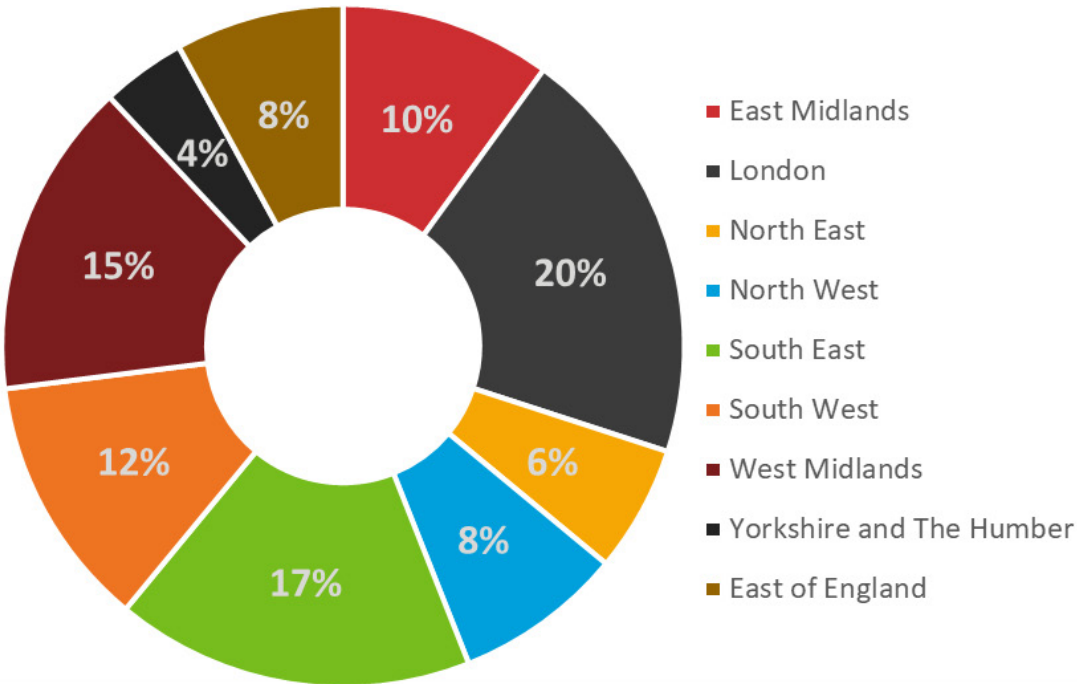


Figure 8: Where Heat Training Grant (HTG) graduates are working.⁷⁸

National policy has an unevenly distributed impact on heat pump deployment across regions, influenced by many factors. London and the North East show the lowest levels of policy-driven heat pump deployment, as illustrated in Figure 9, reflecting limited uptake, slower policy implementation, or reduced awareness. Despite the availability of policy incentives, NESO's Distributed Future Energy Scenario projections show that significant growth in heat pumps is needed in London, suggesting that policy-driven uptake is behind the pace required.⁷⁹ In London, this lower-than-expected deployment may be due to the dominance of building types such as flats and terraced houses, which present challenges for installing heat pumps. Given the limited space within these properties, and high housing density, opportunities for alternative decarbonisation exist, such as direct electric or heat networks. Both London and the North East also have the highest number of socially and privately rented homes, meaning occupiers often have limited control over the heating solutions installed. The implementation of higher minimum energy efficiency standards across the rental markets could help stimulate uptake.⁸⁰ Overall, this suggests that policy availability in isolation may be insufficient to drive deployment.

Some areas with the lowest workforce growth requirements also have more energy-efficient housing, with 52.66% of homes in the South East and 51.37% in the East rated above EPC C.⁶⁷ The South West and South East also have the lowest proportion of homes in fuel poverty when compared to the rest of England.⁶⁶ These factors are likely supporting consistent demand, creating a more attractive market for existing gas engineers to transition into the sector and for new entrants to join.

The rollout of heat pumps across England reveals a fragmented landscape, with significant regional disparities in deployment, training provision, and workforce capacity. To achieve the scale of decarbonisation required by 2035, substantial workforce growth is needed, particularly in counties and combined authority areas with the largest workforce gaps. Delivering this growth demands a clear, region-specific understanding of the current barriers to consumer uptake, installer training, and installation completion. Without sustained policy funding and targeted investment, low regional demand risks creating an unattractive market for existing heating engineers to reskill or for new entrants to join. By working closely with local businesses and industry, and by designing national policies that reflect regional differences, the Government can more effectively drive heat pump demand, accelerate workforce development, and unlock the full potential of green job creation.

Policy Driven Heat Pump Deployment

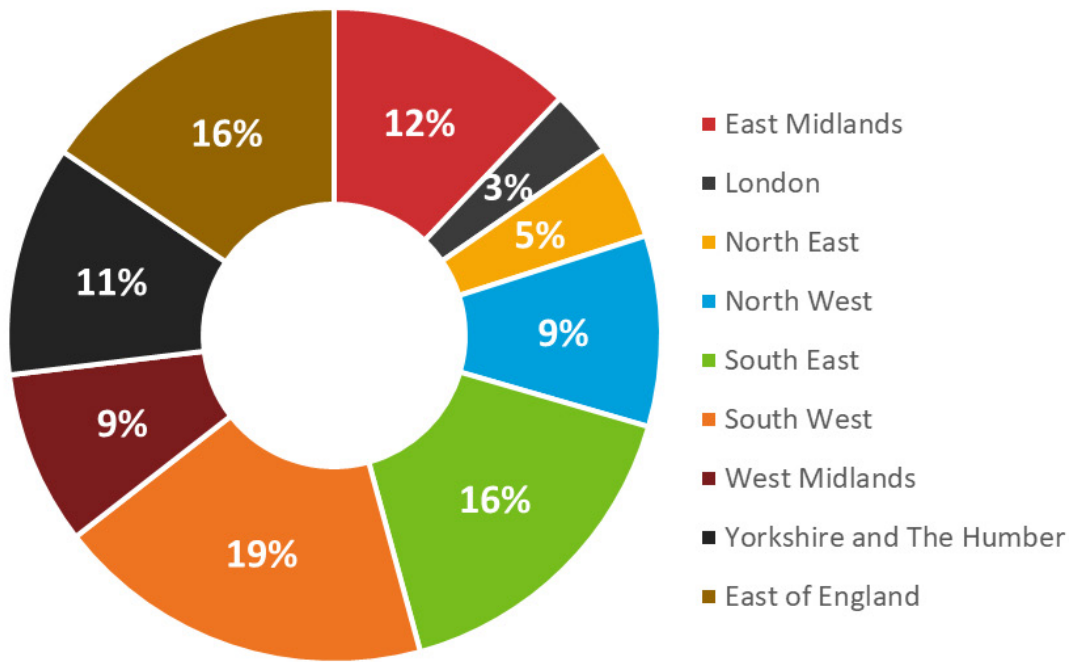


Figure 9: Regional split of heat pump deployment by policy since 2018.^{9,8}

Table 3 outlines the ten counties with the lowest workforce growth required. Regions in the South East (West Sussex, Surrey, East Sussex), and East of England (Hertfordshire, Bedfordshire, Kent, Essex, Norfolk, Suffolk), and South West (Wiltshire, Devon, Gloucestershire, and Cornwall) generally require a smaller increase in the installer workforce than the rest of England. 13/17 of the counties that require a workforce increase of under 200% are from the South West, South East, or East of England.

These regions tend to have a more established heat pump workforce today, driven by existing demand. Government-supported installation data shows that the South West, South East, and the East of England accounted for 51% of installations in the past year.⁷ The South West and South East have the highest deployment through policy schemes and a moderate and high proportion of training providers, respectively. The East of England ranks joint third for deployment through policy schemes and third for the proportion of training providers. As a result, these regions exhibit a relatively balanced relationship between training provision, workforce requirements and demand.



IX Policies include the Boiler Upgrade Scheme, Home Upgrade Grant, Social Housing Decarbonisation Fund, Local Authority Delivery, Green Homes Grant Voucher Scheme, Domestic Renewable Heat Incentive and the Energy Company Obligation.

Navigating the Heat Pump Journey

By switching to heat pumps, consumers have the opportunity to decarbonise their homes, enjoy greater comfort at a lower cost, and increase the value of their property.⁸¹ Installers, meanwhile, can benefit from being early movers, building a loyal customer base, and improving their earnings potential as heat pumps scale. With year-on-year growth in heat pumps installations and further expansion expected from policy-driven demand, both consumers and installers stand to benefit from this growth.

However, heat pumps are competing with a well-established gas boiler market. The UK has a mature gas infrastructure, with 85% of homes connected to the gas grid. Most homes were originally designed to operate with gas boilers, therefore consumers are familiar with the performance and reliability of the technology. Since gas boilers were first adopted for central heating over 60 years ago, manufacturers have been able to deliver installations at affordable cost, while also building consumer trust, a robust supply chain, and a large pool of trained installers. Today, there are around 150,000 registered Gas Safe engineers, accustomed to selling gas boilers, collecting them from local merchants, and carrying out quick like-for-like replacements.⁸² Much of this workforce is approaching retirement and is often reluctant to retrain for heat pumps installations.⁸³ As a result, most heating systems continue to be replaced with gas boilers, and the Government estimates that 10 million more will be installed over the next decade.⁶⁴

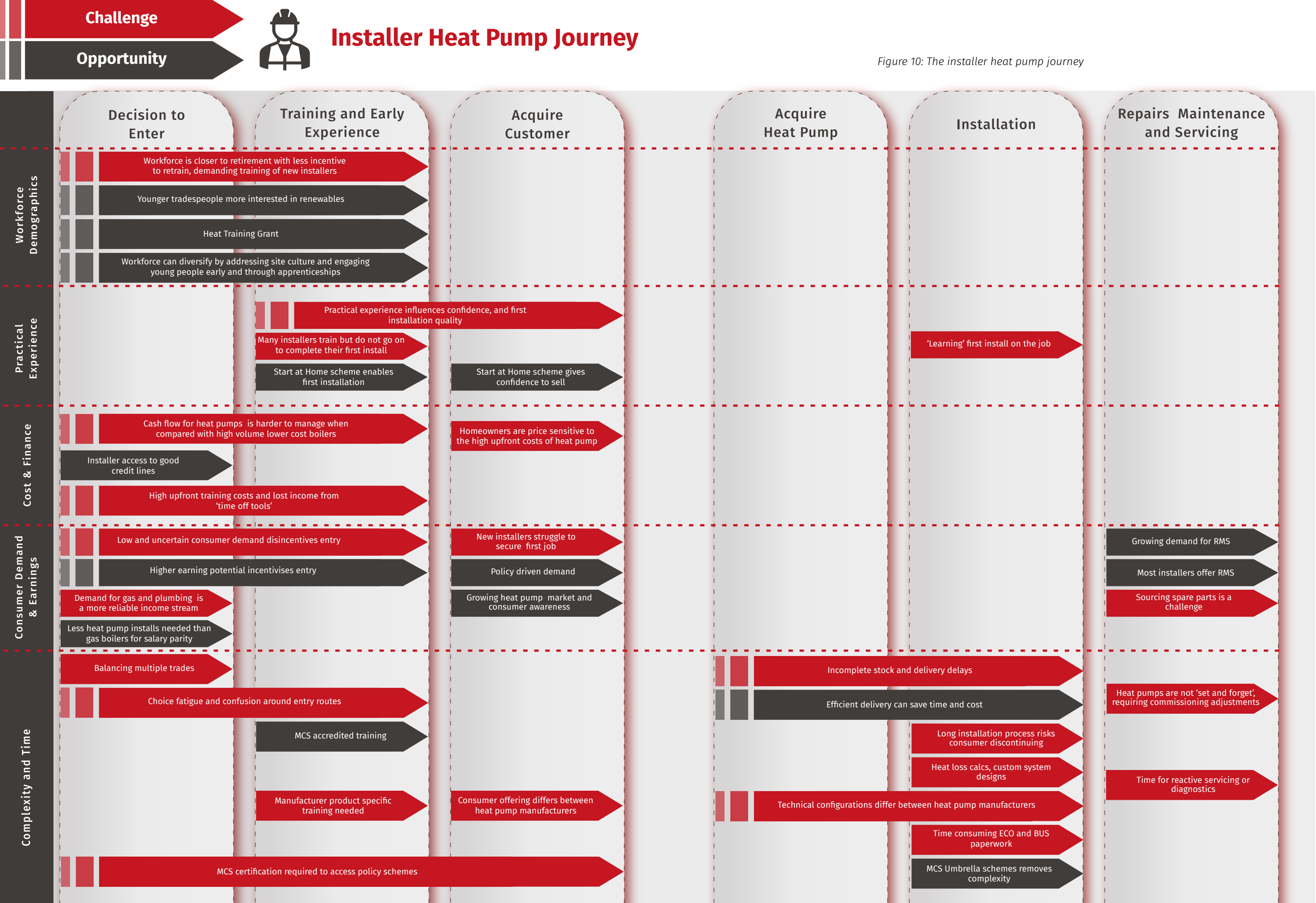
Whilst progress has been made, challenges remain. In 2024, 90,514 heat pumps were installed, far short of the Sixth Carbon Budget's projections of 744,020 installations by 2024 in residential buildings, which required an increase of 207,670 between 2023 and 2024.^{58,84} The Seventh Carbon Budget sets an even more ambitious target of 1.5 million annual installations by 2035.³ Meeting this demand will require an additional 132,239 trained heating engineers and plumbers between 2025 and 2035.⁸⁵

Two key barriers continue to limit the uptake: low homeowner demand and a shortage of sufficiently trained installers. For both installers and homeowners, the proposition must be attractive and the process straightforward. Policy measures have begun to address these issues, for example, by increasing BUS subsidies to £7,500, relaxing planning rules through the removal of the one-metre boundary requirement (allowing homeowners to install heat pumps closer to their property boundary without unnecessary delays or paperwork) and expanding training opportunities via the HTG. Regulation is also expected to increase demand through the introduction of the FHS, and higher MEES standards in both SRS and PRS (once EPCs incentivise heat pumps). Other mechanisms such as the continuation, of the Warm Homes: Social Fund, and the introduction of a future iteration of ECO, will also help to create a supportive policy framework.

The Installer Heat Pump Journey

As part of its commitment to helping the Government achieve its aims to increase the number of heat pumps sold and installed effectively, Wolseley commissioned surveys involving 1,320 installers and 2,000 homeowners across the UK to better understand the barriers faced. Insights were drawn from survey responses, industry interviews, desk-based research, and expert input. The findings highlight key challenges and opportunities faced by installers throughout the heat pump journey, from initial training to installation and maintenance. The challenges and opportunities are categorised by the far-left-hand column in Figure 10.





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Wolseley at Westminster - Accelerating the renewables transition

Wolseley at Westminster - Accelerating the renewables transition

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Workforce Demographics

An ageing installer workforce is a significant challenge for the retrofit and renewables market.^{69,13,34} Currently, 63% of heating and cooling installers are aged 45 or older and 37% are 55 or older.⁷⁴ There is little incentive for this age group to retrain, as many expect sufficient work using their existing skills for the remainder of their careers.¹³ As a result, a large proportion of the current workforce is unlikely to be incentivised to upskill as a heat pump engineer.

By contrast, younger tradespeople are more engaged with renewables. Wolseley’s research found that heating engineers, plumbers, and electricians under 35 spend around 10% of their total work on renewable technology installation and maintenance which is a higher share than any other age group. This suggests the older the age bracket, the smaller the proportion of time spent on renewables.

The urgent need to expand the heat pump workforce presents an opportunity to broaden the pool of potential installers and attract a more diverse workforce, including young people, women, and ethnic minorities. Only 2% of heating and cooling installers are women and only 5% are ethnic minorities.⁸⁶ Engaging these groups through early career advice and apprenticeships can help attract them to the sector. At the same time, workplace culture must be addressed to ensure the industry is more attractive.^{30,69,87}

Practical Heat Pump Experience

Heat pump training generally lacks practical learning opportunities. A third of installers (33%) identify this as a major barrier to applying theory in practice, while over half (52%) report feeling unconfident or insufficiently trained to carry out installations. The ability to apply training quickly, and gain practical experience is exacerbated by installers struggling to secure their first job.⁶¹ According to DESNZ’s survey of HTG installers, only 27% had gone on to install the following year.⁶⁰ Meanwhile, the HPA’s analysis suggests that 39% of individuals trained are not expected to enter the workforce.¹⁵ Consequently, the number of trained installers does not accurately reflect the level of heat pump deployment. To accelerate the transition, it is vital to engage installers immediately after training and provide them with practical installation experience to ensure they remain active in the heat pump sector.

For those that manage to secure their first customer and go onto install after training, they will be learning on their first job, which does not ensure a high quality first installation. To address this, Nesta launched the Start at Home scheme, allowing installers to fit a heat pump in their own home at no cost. Schemes are now operated across the UK, including by Renewables Centre, a Wolseley Group company. Nesta’s pilot scheme found that confidence increased alongside technical knowledge, particularly in system design.⁸⁸ This was achieved by installers conducting room-by-room heat loss calculations and commissioning. Living with a heat pump also improved soft skills and enabled installers to offer credible advice, dispel myths, and guide customers on behavioural adjustments needed to optimise performance. These findings highlight the value of hands-on experience in building a skilled and confident installer workforce. Through the MCS Umbrella Scheme, the Renewables Centre further supports Start at Home installers by assisting with system design, administration and Distribution Network Operator (DNO) applications. This ensures installers receive end-to-end support to successfully complete their first installation at home, building confidence and competence from the outset.

Cost and Finance

The cost of training is a significant barrier for prospective installers. Many face income losses of £250–£450 per day while training, with most unwilling to pay more than £250 for a course.⁸⁹ A five-day programme can result in lost earnings of around £1,160, rising to an average short-term cost of £3,010 once certification fees are included.³⁴ Such losses are particularly challenging for sole traders. Without support schemes such as the HTG, most (71%³⁶) installers would not undertake training, prompting calls from industry and the Energy Security and Net Zero Committee for stronger government incentives, including an increase in the value of the HTG, to encourage installers to take “time off the tools”.³⁴

Installers purchase the materials for a heat pump installation (roughly £7,700 including VAT⁹⁰) before receiving any payment from the consumer or reimbursement through grant schemes such as the BUS. Given that most installers are sole traders, they have restricted cash flow and so cannot purchase a high amount of heat pumps to meet larger orders or sustain consistent installations. Cash flow issues are exacerbated by reimbursement occurring post-installation and verification under the BUS, a process which can take months, with prolonged installations adding to this further. Methods to ease this cost burden, whether through cashback, rebates, discounts or credit lines, have been reported as incentives which could ease this issue.

Consumer Demand and Earnings

Stronger demand from consumers would encourage installers to undertake more renewable work or transition fully to the technology. Currently, low demand prevents some surveyed installers (33%) from applying for heat pump training. These findings align with government research, which identified customer demand as both a barrier and motivator to installing heat pumps.²⁷ Among employers not currently offering heat pump installations, 43% reported that they would require an increase in customer demand before doing so.²⁷ In addition, uncertainty over local demand discourages workers from investing in training that may not be used in practice.⁴¹ As a result, many installers do not go on to upskill or if they do, they struggle to secure their first job.

With gas and plumbing offering a steadier demand and a more reliable income stream from sustained gas boiler demand, increasing demand is essential to incentivise installers to enter the heat pump market.³⁵ Policy can help stimulate this demand by incentivising the installation of heat pumps and other renewables, for example, through revising EPCs to favour heat pumps where appropriate, raising MEES standards in the private rented sector, reducing the spark gap, sustaining the BUS, and providing targeted heat pump incentives under the ECO and Warm Homes schemes.

Despite these challenges, there are encouraging signs. Public awareness and interest in heat pumps is rising: between winter 2021 and spring 2025, awareness of ASHPs increased from 71% to 79%.⁹¹ Over the same period, the proportion of owner-occupiers likely to install an ASHP when replacing their heating system or boiler rose from 19% to 26%.⁹²

There is also a growing market for repairs, maintenance and servicing (RMS). Installers report that increasing customer demand is the main driver for moving into RMS within the next 12 months.⁹³ The industry is relatively well prepared for this shift, with 61% of sole trader heating engineers already offering RMS to heat pump customers.⁵²

Owing to steady income streams from gas boiler demand, installer confidence in earning the same or more is crucial to incentivising a switch.⁹⁴ Earning potential therefore a key incentive. Since completing HTG courses, 27% of installers had gone on to fit at least one heat pump, with 24% reporting a salary increase as a result of the skills gained under the HTG.³⁶ Meanwhile, 73% did not go on to install any heat pumps, and the same percentage reported that their salary remained the same. This suggests that only those installing a heat pump experienced a salary increase.



As shown in Wolseley's analysis in Figure 11, installers who focus solely on heat pumps could earn, on average £9,145 more per year than those who only install gas boilers.¹⁰ To match the earnings from installing 83 gas boilers, an installer would need to install just 18 heat pumps. This highlights the higher profitability of heat pumps and provides a strong incentive for installers to upskill. For example, an installer who retrain today could earn an additional £108,103 over the next decade compared with one who waits until 2035.

Time and Complexity

Individuals seeking to train as heat pump engineers face a complex and fragmented training landscape. The market is crowded with options, including apprenticeships, short or fast-track courses, manufacturer-led programmes, merchant training, MCS-accredited schemes, Competent Person Scheme (CPS) routes, and trade association courses. These pathways vary significantly in quality and the level of competence they deliver. Fast-track courses, in particular, have developed a poor reputation, raising concerns about their effectiveness. This abundance of options can create choice fatigue and acts as a barrier to entry for some prospective installers.

For new entrants with no prior experience, the traditional route begins with Level 1 and Level 2 plumbing qualifications, followed by Level 2 or Level 3 N/SVQ in plumbing and heating installation or maintenance for gas or oil systems. After this, candidates progress to a heat pump-specific Level 3 course. This process can take several years and may include outdated content. An alternative is the Low Carbon Heating Technician Apprenticeship, which takes approximately 36 months and is likely a more relevant and streamlined pathway for those entering the sector.⁹⁵

For existing heating engineers and plumbers, most already hold an N/SVQ Level 2 or 3 qualification in gas, oil, or plumbing. While they could enrol in an apprenticeship, the time and cost make this route impractical. Instead, they can complete a Level 3 heat pump installation course, which can be MCS-aligned and typically lasts 2–5 days. However, best practice also recommends attending manufacturer-specific training to gain expertise in product-specific design, installation, and commissioning. As such, training can be time intensive and complex, making the upskilling process appear burdensome. These challenges risk discouraging engineers from transitioning into the heat pump sector.

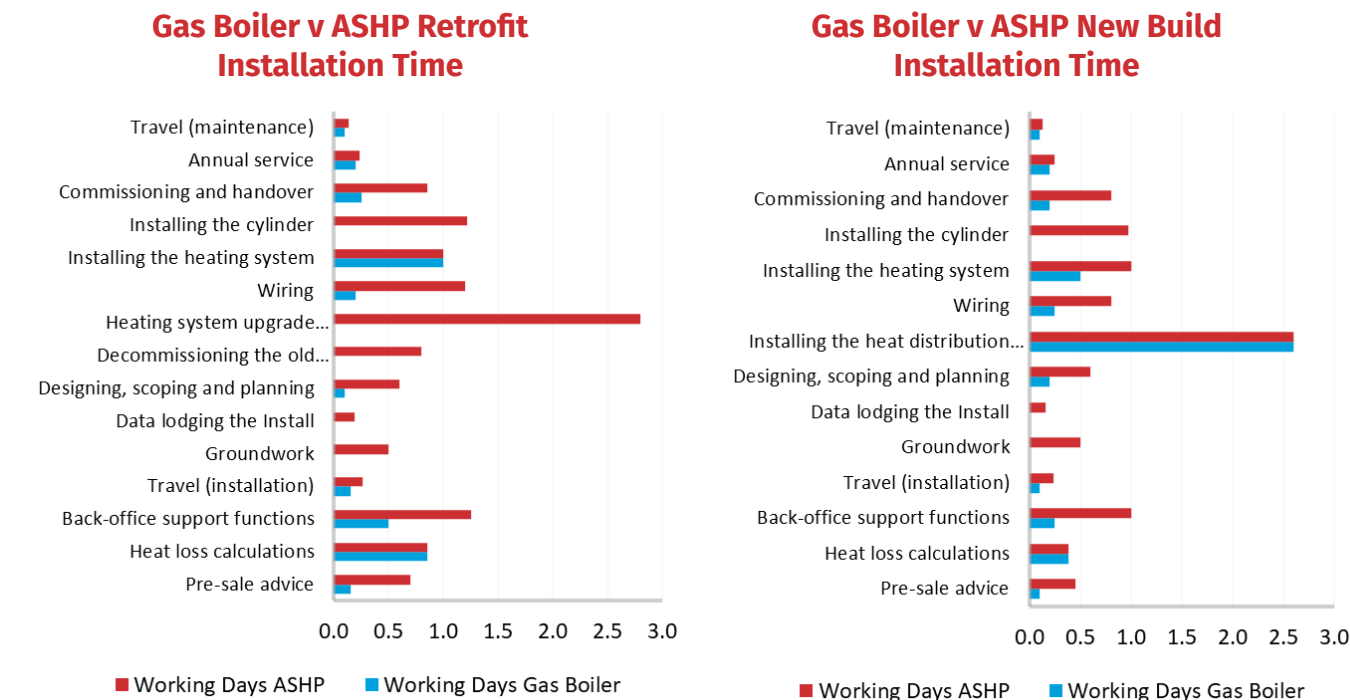


Figure 12: Installation bottlenecks (retrofit).⁹⁶

Figure 13: Installation bottlenecks (new build).⁹⁶

X The earnings figures presented in this infographic do not constitute financial advice. Actual income may vary, and Wolseley makes no guarantees regarding future earnings and accepts no liability for decisions made based on this information. Individuals should seek independent financial guidance before making career or investment choices.

Figure 12 and Figure 13 show heat pump installations are more time-consuming and complex than gas boiler installations for both retrofit and new build properties.⁹⁶ On average, heat pumps require 4.92 working days in new builds and 9.02 working days in retrofit compared with gas boilers, once commissioning, design, and back-office work are included. Most of this extra time is due to the need to install larger radiators, upgraded pipework, and a hot water cylinder when replacing the heating system. With such extended installation periods, consumers risk becoming disengaged and may even withdraw from the process.

Bespoke MCS-compliant designs are required for retrofit projects, yet 58% of installers identify this as one of the most difficult aspects. Accurate property assessments and room-by-room heat loss calculations are essential to size systems correctly for efficient, low-flow operation, with 63% of installers finding this stage particularly challenging.

To access policy support schemes, installers must meet certification requirements, which involve completing documentation such as ECO declarations, BUS voucher applications, and commissioning records aligned with industry standards. While these steps help ensure quality and compliance, many installers report that the administrative process for an ASHP installation can be time-consuming: 67% say it takes over an hour, and 30% estimate between four and eight hours.³⁵ This level of paperwork can make it difficult to integrate heat pumps into existing business models and may limit the number of customers an installer can support.

The introduction of MCS Umbrella Schemes has helped reduce some of the complexities faced by local installers or small and medium-sized plumbing and heating businesses by simplifying installation, administration, design, and compliance processes. This scheme presents a good opportunity to support these installers in scaling efficiently with increased demand.

The longer installation time of heat pumps compared with gas boilers makes them less attractive to many installers perceive. Some 43% believe heat pump installations take too long relative to the profit they generate, reinforcing the perception that fewer jobs can be completed in a day than with gas boilers, and therefore less revenue earned. This challenge is compounded by 41% of installers reporting that managing multiple trades is overly time-consuming.

Innovation offers opportunities to streamline the installation process. For example, in partnership with Renbee, Nesta has trialled using a generative AI chatbot that provides installers with answers to installation questions, reducing the time spent consulting manuals or waiting for technical support.⁹⁷ Tools such as this are expected to improve further as new innovations enter the market.

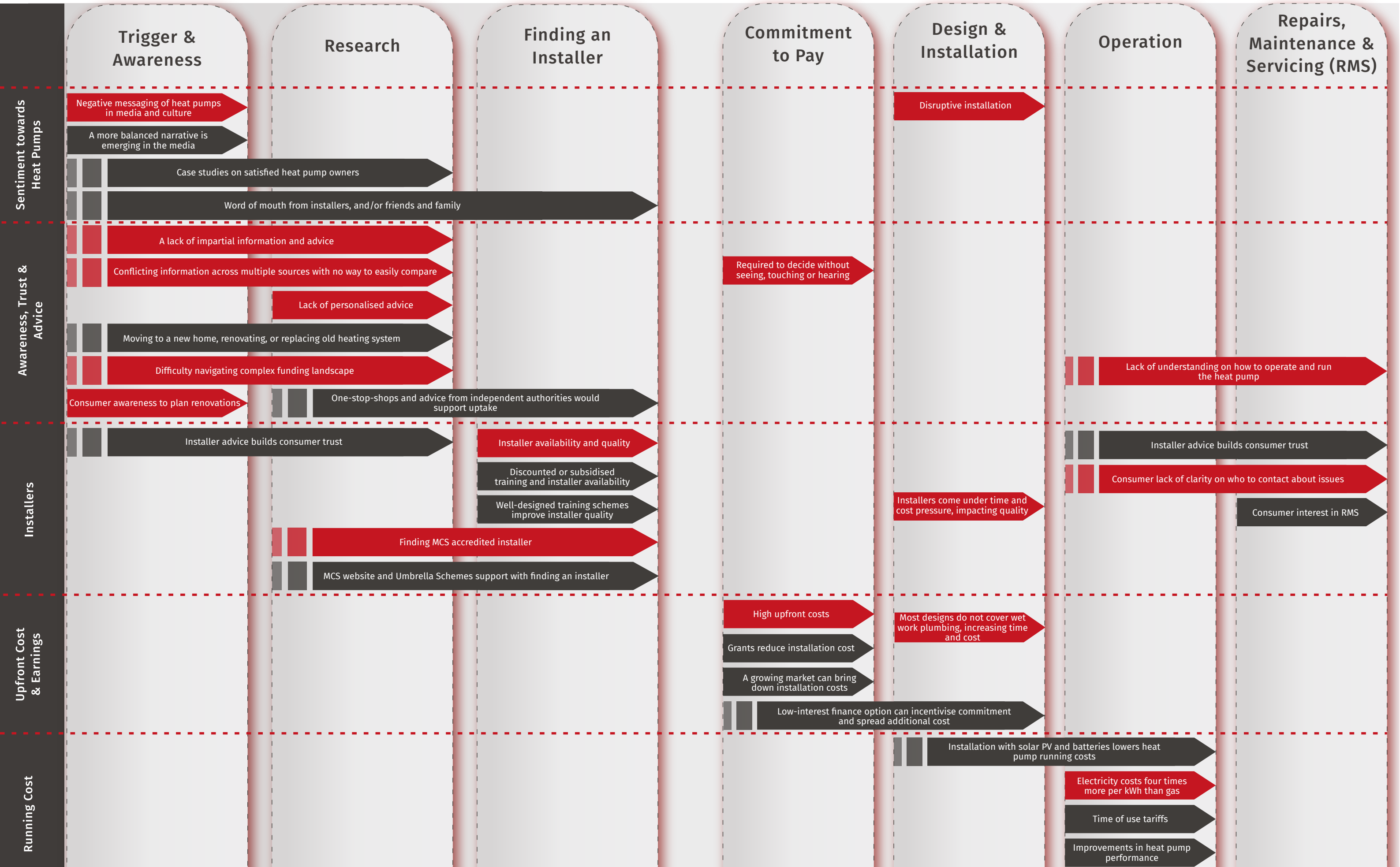
The UK's established boiler manufacturer workforce provides a strong foundation for developing of the largest domestic heat pump markets in Europe, provided stable and long-term policy is in place.⁹⁸ However, product availability and specification differ between manufacturers due to varying design philosophies and control systems. This presents a challenge in matching product availability with customer requirements and leaves the market vulnerable to stock limitations. Stock levels, combined with installer availability, consumer demand, and planning permission requirements for listed properties have contributed to long lead times of three to six months to arrange an appointment for installation.⁹⁹ With the logistics supply chain still geared towards gas boilers, higher volumes of heat pumps risk exacerbating these delays. There is therefore a clear opportunity to adapt these supply chains, improve efficiency, and reduce installation times for both installers and consumers.

Unlike gas boilers, which benefit from a 'fit and forget' approach, heat pumps require commissioning, adding both complexity and time pressure. More than half of installers (54.2%) believe heat pumps are often oversized, while only a third (34.7%) feel systems are sized correctly.¹⁰⁰ A further 20.2% report that heat loss calculations frequently fail to reflect real-world performance, largely due to inconsistent property conditions and reliance on outdated data. As a result, installers often need to adjust systems after installation or are called back by consumers due to poor performance. When sized correctly, however, heat pumps deliver optimum performance by maintaining a constant indoor temperature, improving efficiency while maintaining occupant comfort.

Although general awareness is improving, limited customer understanding of how heat pumps operate remains the most common challenge in heat pump maintenance. Commissioning adjustments are required, and consumers must be shown how to use thermostats and adjust heating schedules, which adds complexity. The next most common challenge is difficulty sourcing spare parts. Fast-track ordering for urgent repairs is seen by many installers as an important service that could help address this issue. In addition, 32% of installers find post-installation servicing or maintenance too time-consuming relative to the earning margin. Reactive servicing is particularly difficult to plan and. Nesta's survey also highlighted a shortage of the right skills as a major challenge for installers.⁵²

Figure 14 below illustrates the challenges and opportunities consumers encounter on their journey to owning and installing a heat pump, from the initial trigger and awareness stage through to repairs, maintenance, and servicing. The information presented is based on desk-based research, Wolseley’s homeowner survey, and expert input.

Figure 14: The consumer heat pump journey





Sentiment Towards Heat Pumps

Negative portrayals of heat pumps in media and wider culture continue to undermine public confidence, perpetuating myths and misleading claims about their efficacy and suitability for homes.¹⁰¹ However, a growing body of research and case studies disproves these misconceptions, and a more balanced narrative is emerging. Electrify Research's *Homeowner Electrification Tracker Study* found that 94% of homeowners with a heat pump were satisfied (44%) or extremely satisfied (50%) with their system, compared with 85% satisfaction among mains gas boiler users.¹⁰² These findings have been reported in outlets such as the *Daily Mail*¹⁰³, *The Independent*¹⁰⁴, and the *Evening Standard*.¹⁰⁵ The Government has acknowledged the challenge of negative perceptions and has used the results of a household survey and an assessment of media coverage to inform strategies to tackle misinformation and improve public confidence.¹⁰⁶

Sharing the positive experiences of consumers is key to strengthening sentiment towards heat pumps. Referrals and word-of-mouth recommendations from friends, family, and installers play a central role in influencing decisions to install. Many heat pump owners would recommend them, so highlighting their success stories and positive installer experiences can help strengthen confidence and improve public perception.

While attitudes are becoming more positive, the disruption associated with the installation remains a significant barrier. Given the complexity of the process, this challenge issue is likely to persist without innovation to streamline installation and reduce inconvenience for consumers.

Awareness, Trust and Advice

Limited awareness of the benefits of home retrofit, alongside a lack of reliable and impartial information, remains a significant barrier to heat pump adoption.⁴¹ While awareness of ASHPs is the highest of low-carbon heating systems, 23% of respondents were still unaware of the technology, underlining a need to raise awareness further.¹⁰⁷ Consumers also face a fragmented landscape of competing advice and no clear, trusted platform for impartial guidance in England. The Energy Security and Net Zero Committee has recognised this gap and recommended that government establish a mechanism to address it.⁴¹

In general, UK homeowners do not plan ahead for heating system replacements: 65% of homeowners only replace their system when it breaks down or deteriorate significantly.¹⁰⁸ This makes heating replacement a 'stress purchase', inevitably reducing the likelihood of choosing a heat pump given the quicker and simpler process of installing a boiler. Wolseley's research found that most homeowners who purchased a heat pump did during a major home renovation (23%), when moving house (20%) or when replacing an ageing (18%) or broken (18%) heating system. Research by *Which?* also found that homeowners who planned their replacement and had access to heat pump information were twice as likely to consider one.¹⁰⁹ This highlights the opportunity to target households most likely to changing their heating system, such as movers or those with old or failing boilers.

Awareness of where to find trustworthy advice is also low. In DESNZ's *Public Attitudes Tracker*, only 27% of respondents knew where to find trustworthy guidance on low-carbon heating. In 2024, the most trusted source of advice was a tradesperson.^{110, 85} The lack of personalised advice is a key reason for low engagement with retrofit measures, as many homeowners are unsure whether proposed solutions are suitable for their property. Wolseley's survey found that 22% of those who had installed a heat pump were unaware of subsidies such as the BUS. Among those who were aware, only 15% had learned this information from government sources, compared with 27% from installers, demonstrating the critical role installers play in engaging consumers.

Providing a trusted, free source of advice offers a clear opportunity to tackle misconceptions and enable households to make informed decisions. The Government's '*Check if a heat pump could be suitable for you*' webpage is a positive step in addressing this, but further opportunities exist to signpost trusted installers and financial options.¹¹¹ One-stop-shops or similar models have been shown to deliver warmer homes, lower energy bills, and higher uptake of renewable technologies, while encouraging behaviour change that supports the transition to net zero.¹¹²

Finally, given the relatively low number of installations, seeing a heat pump in person remains rare. Wolseley's Renewables Centre Showrooms and Nesta's 'Visit a heat pump' service allow the public to see, hear and interact with a system before installation. This hands-on experience helps build consumer confidence by allowing them to ask questions and understand how the technology works in practice.¹¹³

Installers

As outlined in *The Installer Heat Pump Journey*, several challenges affect the number of installers in the market, which in turn limits their ability for homeowners. Opportunities to improve availability through discounted and subsidised training have been discussed in the *Cost and Finance* section. Consumers also face difficulty finding MCS-accredited installers, restricting their ability to access grant funding. The MCS' 'Find an MCS Certified Installer' website and Umbrella Schemes help address this issue.^{114, 115}

In some cases, heat pump projects are delivered under high cost and time pressure, creating a 'race to the bottom'. This often results in lower installation quality, poor performance, and worsening sentiment towards heat pumps. Low-quality outcomes are also linked to insufficient training and weak quality assurance. Expanding practical training opportunities is one way to begin addressing this challenge.

Research also highlights that consumers struggle to seek redress when problems arise. Many are uncertain about who to contact and often cannot reach their installer.¹¹⁶ This presents an opportunity for installers in to build long-term relationships by supporting consumers throughout the system's lifetime, benefitting from referrals in return. Wolseley's homeowner survey found that 59% of respondents would be willing to pay for a maintenance contract, ensuring efficient performance and timely resolution of issues. More broadly, establishing a trusted and impartial information and advice service in England would help consumers navigate this uncertainty.

Upfront Cost

High upfront costs remain a major barrier to widespread heat pump adoption. Almost half of surveyed homeowners (48%) spent more than £7,500 on a heat pump installation. Designs often exclude wet-work plumbing, creating unexpected additional costs. For example, over half of consumers required ancillary upgrades such as larger radiators and pipework, typically costing more than £2,000. With the UK median salary at £37,430, the upfront cost represents around one-third of annual take-home pay, putting heat pumps out of reach for many households.¹¹⁷ Lower installation costs would therefore encourage more homeowners to consider adoption.

Policy schemes provide a short-term opportunity to reduce cost barriers and boost homeowner uptake. Research by DESNZ found that 65% of survey respondents cited the BUS grant as the key trigger for installing a low-carbon heating system, while 55% said they would have been unlikely to proceed without it.¹¹⁸ Continued grant support is therefore essential to encourage further demand.

Low-interest finance options can also incentivise adoption by spreading cost. Research shows strong support among owner-occupiers for government-backed green finance schemes.¹¹⁹ Well-designed financial mechanisms, combining public and private capital, could unlock wider investment in low-carbon technologies and accelerate decarbonisation.¹¹

As the heat pump market grows, installation costs are expected to fall through improved supply chains and standardised practices.⁷⁰ Government acknowledges the challenges, but research suggests cost reductions of 15–25% by 2030 are achievable.^{120, 121} Realising these savings will depend on addressing the shortage of qualified installers and ensuring a streamlined, high-quality pathway for new entrants into the sector.



Running Costs

Heat pump running costs are typically higher than those of a gas boiler, creating a barrier to consumer uptake.¹²² Electricity is around four times more per kWh than gas, and as shown in Figure 15, the UK has the highest ‘spark gap’ in Europe. This cost imbalance undermines the competitiveness of heat pumps, and when combined with high capital costs, limits widespread adoption.¹²³ Addressing the spark gap by removing policy costs from electricity prices presents an opportunity for heat pumps to achieve running-cost parity with gas boilers.¹²⁴

High quality installations can also deliver competitive operating costs. Analysis by E3G suggests that a 25% improvement in heat pump performance could reduce annual running costs by around £140.¹²⁵ Coupled with integration of renewables such as solar PV and home battery storage, this can reduce reliance on grid electricity.¹²⁶ In addition, time-of-use tariffs can reward consumers with lower costs by shifting energy use to cheaper periods.¹²⁷

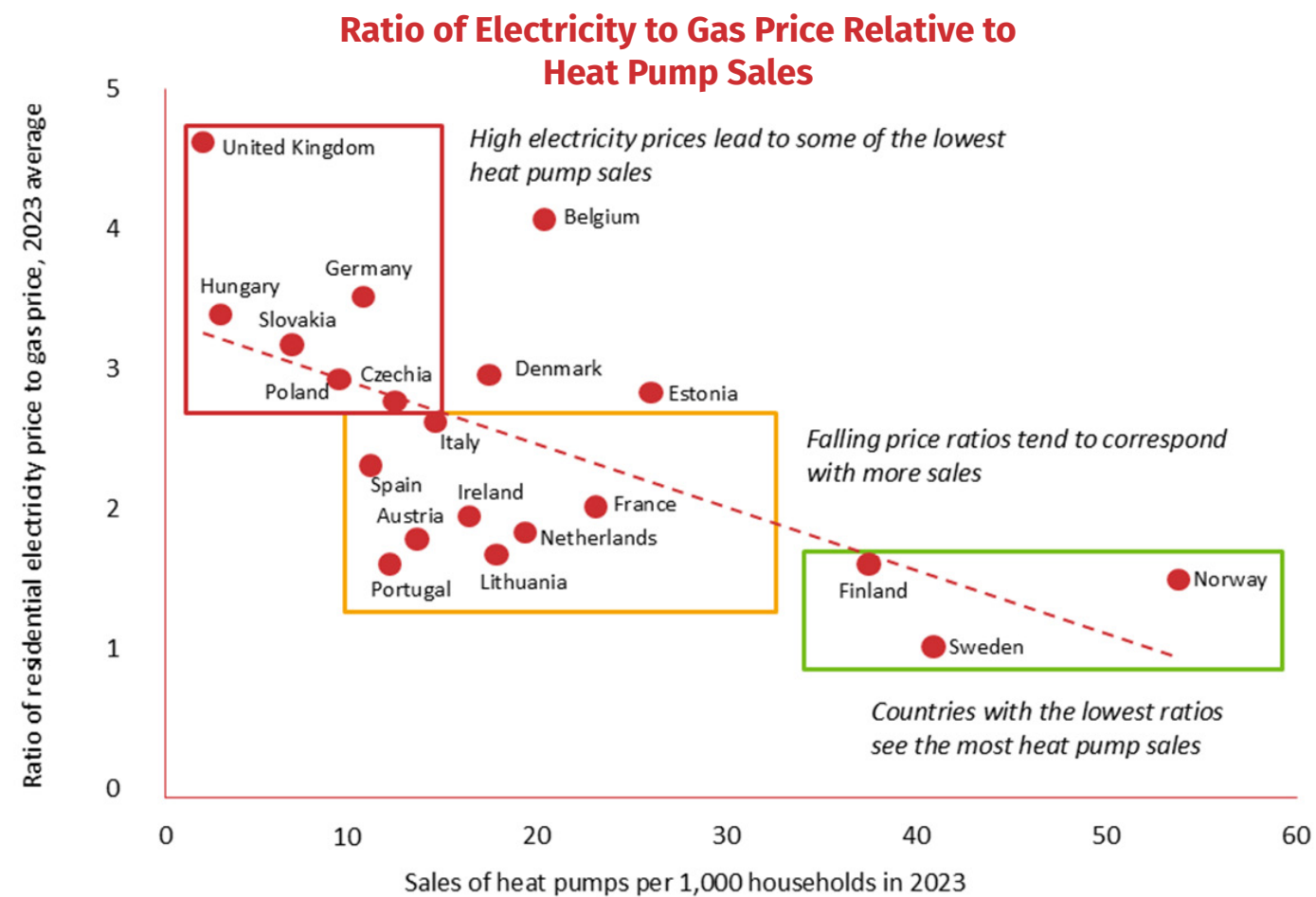


Figure 15: Ratio of electricity to gas price relative to heat pump sales.¹²³

How Wolseley Supports the Journeys

Recognising the challenges faced by both installers and homeowners, Wolseley Group launched Renewables Centre as a partner brand for Plumb Centre. This nationwide brand has been created to support heating professionals to thrive in the renewables market. Offering a fully integrated solution, Renewables Centre combines accredited training, MCS-certified design, installation support, and access to high-quality renewable products from market-leading brands, all in one place, helping installers to future-proof their business.

MCS Training

To meet the growing need for skilled renewables installers, Wolseley has partnered with NAPIT to deliver five accredited training courses across eight UK locations. These cover a range of renewable technologies, including ASHPs, small commercial EV charging, small-scale solar PV, and electrical energy storage systems.¹¹⁵ Between 2025 and 2030, Wolseley expects to train 5,000 new installers to support supplying the required national workforce. Installers completing renewables training with Wolseley also receive their first renewables design free of charge, supporting them with training and delivering quality installations. As the HTG only provides support in England, Wolseley is covering installer training costs in Wales and Scotland. This solution creates a skilled renewables installer base across the UK, supporting a more equitable transition to net zero.

Start at Home Scheme

To help installers gain hands-on experience, Wolseley has partnered with Nesta to deliver the Start at Home scheme.¹²⁸ Eligible installers will receive free BPEC Level 3 training, up to £7,500 in free materials (such as a heat pump, hot water cylinder, or radiators), and free MCS design, support and commissioning – including two site visits. This bridges the gap between training and real-world installations, building installer confidence and competence.

Installation Support

Many trained installers do not consistently move on to renewable installations, delaying the low-carbon transition. Poor quality installations also undermine consumer confidence. The Renewables Centre helps installers deliver quality installations and apply training in practice, through integrated design, supply, and installation support. This includes fast and accurate system estimates, MCS-compliant designs with heat loss calculations, and technical guidance through commissioning and handover. This additional technical expertise and support packages guide customers through the full MCS process, from first estimate to final certification, ensuring a smoother journey for both installers and consumers. The Renewables Centre also offers an MCS Umbrella Scheme, supporting installers throughout their journey while ensuring consumer protection and accountability for installation quality. This provides an ideal solution for both new entrants and existing installers seeking additional support.

Administrative Support

Installers frequently cite paperwork and red tape as barriers, particularly SMEs, reducing the time available for installations and deterring customers.¹²⁹ The Renewables Centre reduces this burden by supporting administrative tasks such as BUS grant applications, DNO approvals, and contract setup, helping installers focus on deliver.

Logistics Support

Meeting the demands of the renewables transition requires a step change in logistics. Wolseley has built logistics support into its offering, including an optimised supply chain, digital notifications, and fulfilment services aligned to daily installer needs. Installers benefit from real-time stock visibility, product storage in fulfilment centres, and staged, precisely timed deliveries to site. The logistics support helps to reduce the complexity of delivering the renewables transition, from SMEs to large developers. This reduces complexity for SMEs and large developers alike, ensuring efficient delivery of renewable heating systems.



Policy Recommendations

To support the transition to renewable heating in homes, Wolseley has identified a set of policy recommendations to address the training, installation, and supply chain challenges outlined in this report. Wolseley is willing to provide market insight and intelligence to support and collaborate with Government to shape a successful policy framework for decarbonising domestic heating. Wolseley believes the Government should:

Set out a clear, long-term implementation timeline for policy schemes, regulations, and the technologies underpinning home decarbonisation within the Warm Homes Plan.

The supply chain analysis in this report highlights the importance of immediate policy clarity and a 3–5-year lead time for the supply chain to prepare for the expected policy and regulatory changes. Despite recognising the importance of heat pumps and renewable systems in decarbonising homes, the government has yet to confirm the higher EPC C by 2030 MEES requirements for private and socially rented properties or confirm the FHS which has been subject to delays. These policies will drive significant volumes of renewables into the market, requiring a scale up of supply chain capacity. This lack of clarity is creating significant uncertainty for industry and consumers.

The unstable policy landscape has prompted the CCC to call for greater clarity to scale heat pump deployment.⁴ Similar uncertainty across Europe saw heat pump sales fall by 23% in 2024 following subsidy cuts and delayed strategy announcements.^{130,131} Such instability discourages investment, slows innovation, deters installer reskilling, and confuses the public, weakening support for the transition to net zero.^{132,133,134}

Wolseley recognises the challenges of the transition, but now is the time for certainty and clarity to build confidence in the renewables market. Wolseley urge the government to make clear, stable commitments that give households, industry, and investors the assurance needed to accelerate the decarbonisation of heating and buildings.

The Government should therefore:

- **Ensure timely release of and response to key consultations**, including Reforms to the Energy Performance of Buildings Regime and Improving the Energy Performance of Privately Rented Homes: 2025 Update.
- **Publish a detailed implementation plan** for the FHS, MEES for private and social rented homes, and related programmes.
- **Confirm the continuation of support schemes**, including the HTG, the next iteration of ECO, and an extension of the BUS beyond this parliamentary period.
- **Provide defined timelines and funding details** for all relevant policies and schemes.
- **Set clear targets** for renewable measures and expected installation volumes

Extend the HTG to March 2029, in line with this parliamentary term with greater incentives for installers to complete their first installation

The Installer Heat Pump Journey highlights persistent workforce challenges, including an ageing workforce, high training costs, and low completion rates. Analysis shows that the heat pump workforce within many counties will need to increase by at least fourfold by 2035, with some facing an over eightfold increase. This underscores the importance of extending the HTG and offering stronger incentives for first installations.

The HTG is a key driver of heat pump training in England. Uptake of Wolseley's offer has grown since its reintroduction, but without confirmation of a successor, a gap in provision risks creating more challenges. This uncertainty affects both new entrants and those retraining. Extending the grant to the end of the parliamentary period and expanding it to Wales and Scotland would improve access across the UK while sending positive signals to the workforce.

The Government should therefore:

- **Confirm the extension of the HTG** until the end of the Parliamentary period.
- **Extend the grant to Wales and Scotland.**
- **Provide greater incentives for trainees to complete their first installation.**

Ensure effective consumer protection within clean heat schemes

Protecting consumers and ensuring clear routes to redress within clean heat schemes is essential for building trust in both government and renewable technologies. Heat pump installations are more complex than boilers, making safeguards against poor-quality work critical. Citizens Advice research shows consumers often struggle to find the right body for redress.¹⁰² Supporting consumers through a clear and simple route for redress would ease complexity and clarify accountability, improving confidence. Wolseley supports efforts to build on existing quality assurance frameworks to strengthen protections and looks forward to working with Government on ensuring consistent safeguards are in place across the country.

Wolseley recommends that the Government:

- **Improve accountability and consumer protection** by reducing complexity and providing clearer routes for redress.
- **Continue to strengthen and quality-assure certification standards.**

Develop policy scheme rules and regulations to support a technology agnostic approach to home decarbonisation

Given the scale, cost and complexity of decarbonising homes, effective and timely policy is essential. At present, only 1% of homes use heat pumps as their primary heating system, despite research showing that around 80% of UK homes are technically suitable for installation.¹³⁵ Existing policy frameworks and schemes should therefore be expanded to incentivise the installation of heat pumps within these homes. For the remaining 20%, it is important that the Government explores opportunities to expand the scope of existing policy to deploy alternative electric technologies. Updating policy scheme rules and regulations to accommodate different types of quality-assured heating technology can encourage the market to install measures where they are most cost-effective and technically feasible whilst ensuring that homes are matched with their most suited technology.

Where technically feasible and cost-effective, adapt wet heating systems so they operate effectively at a low-flow temperature, getting homes heat pump ready

The drive to increase heat pump installations can be supported by encouraging low-flow temperature settings in homes that are not yet able to install a new system. Cost remains a significant barrier to heat pump uptake, even with the support of the BUS grant, while the UK’s ‘spark gap’ continues to make running costs high for some households.^{136,137} With the Government’s clear commitment that consumers will not be required to ‘rip out a working boiler’ - and with 65% of UK households typically waiting until their heating system fails before replacing it - promoting low flow temperature settings offers a practical interim step. The gradual introduction of low flow temperature adjustments reduces energy demand, associated emissions, and bills, and can help make homes ‘heat pump ready’. In doing so, it removes many of the perceived barriers by turning what might otherwise feel like a sudden leap into a more manageable, step-by-step transition.^{138,94}

Wolseley believes the Government should:

- **Encourage installers, and educate consumers, on the benefits of lowering boiler flow temperatures** when repairing or upgrading heating systems, as well as during routine servicing and maintenance checks.
- **Progress plans to make low-temperature heating system training mandatory** for gas installers.

Ensure timely formation of Combined Authorities’ Local Growth Plans and industry collaboration

Wolseley’s regional workforce analysis highlights the need for local authorities to develop a clearer understanding of the specific barriers and enablers to decarbonising homes. As outlined in the English Devolution White Paper, Combined Authorities will be required to produce Local Growth Plans that set out a 10-year strategic framework for addressing regional challenges and driving growth.¹⁹ To support early progress on heat pump and renewables deployment and subsequent workforce development, the Government should ensure these plans are published without delay and that Combined Authorities work in close partnership with industry to identify barriers and co-develop practical solutions.



Conclusion

Decarbonising homes will be pivotal to the UK achieving its target of reaching net zero emissions by 2050. The transition to renewable heating in homes requires a drastic change in the technologies we use, the logistics behind how they are stored, moved, and delivered, and the accompanying skilled workforce to enable the change.

The move from gas boilers to heat pumps represents a major change in the logistics of home heating. Heat pump baskets are almost 15 times heavier than traditional boiler baskets, and with pallet volumes expected to double over the next decade, the supply chain must adapt quickly. Warehousing capacity will need to expand, and the current majority collection-based model must evolve into a majority delivery-led approach. This will demand larger HGVs, more advanced handling equipment, and a reimagining of transport logistics. Crucially, industry requires a 3–5-year lead time to prepare for these changes, highlighting the urgency of clear policy direction and investment today.

Meeting CCC recommended heat pump installation of 1.5 million annually in 2035 will require a large increase in skilled labour. While training pathways are broadly on track until 2028, the modelling shows a steep increase in demand from 2032 onwards. To meet this, the workforce must grow more than four-fold from 2025. Again, this highlights the urgency of acting now to support an effective transition to net zero.

Each region of England will face unique challenges in scaling the workforce requirements for heat pumps. In particular, the Lancashire, Greater Manchester, London, Cambridgeshire and Peterborough and West Midlands combined authority region require the highest workforce growth. To drive higher workforce numbers, increased consumer demand and targeted regional support will be key. The regional findings should serve as a foundation for deeper investigation to uncover underlying drivers of and inform tailored strategies for addressing rising heat pump demand and associated workforce expansion.

Industry interviews, surveys, and expert input reveal a complex landscape for both installers and consumers. Installers face logistical, technical, and financial hurdles, while consumers often encounter confusion, cost concerns, and limited access to trusted advice. Within these challenges are opportunities. For installers, the chance to future proof their business whilst potentially benefiting from greater financial rewards. For homeowners, the potential for lower energy bills and more comfortable, sustainable homes.

The transition to renewable heating is still in its early stages. While progress has been made, the pace and scale of heat pump and other renewable technology installations must increase significantly. Installers, consumers, and businesses all play a vital role in accelerating homes decarbonisation but need support in navigating the opportunities and challenges in switching to low-carbon heating. A clear and supportive policy framework can empower these stakeholders and unlock private investment. By setting out a long-term, transparent policy timeline, government can give industry the confidence to invest in scalable solutions that drive building decarbonisation and grow the renewables market to a self-sustaining scale. Wolseley has already committed significant capital to support the shift to low-carbon heat and stands ready to invest further in response to clear signals from government.

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About Talan

Talan is an expert provider of professional and digital transformation services designed to accelerate the transition to a more sustainable future. Talan specialises in complex and highly regulated energy and environmental sectors at the forefront of a changing world, offering a comprehensive range of services for organisations in both the public and private sectors. Our experience in the transition to low-carbon heat stretches over many years. Talan is working with the Government, energy companies, manufacturers and trade associations as well as wider heating industry stakeholders to prepare the heating market for a low-carbon transition. This includes assisting our clients with navigating the complex regulatory and policy landscape, providing insightful and informative research, economic analysis and stakeholder engagement.



Wolseley at Westminster

Accelerating the renewables transition

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