1. Executive summary

Since 1994, Britain has operated a succession of energy supplier-led home energy upgrade schemes, most recently the Energy Company Obligation (ECO), which ran in four iterations from 2013 to 2026. These schemes have invested over £13 billion (at 2025 prices) in upgrading almost 2.6 million homes, delivering real benefits for fuel-poor households [1]. However, the journey has been deeply problematic, especially the final iteration, ECO4, due to widespread quality failures, fraud, poor consumer outcomes and trust issues.

This report was commissioned by Possible, a climate action charity, and undertaken by Repowering London, a practice-based community energy social enterprise. It draws on research with householders, landlords, energy suppliers, installers, and other delivery partners to assess the barriers to subsidised home energy upgrades, document lessons learned, and set out recommendations for future home energy upgrade schemes.

Key failures of ECO

The ECO schemes seem to have suffered from a number of structural and systemic problems:

- **Stop-start funding cycles:** Poor transitions between funding cycles created boom-and-bust conditions that undermined installer confidence, workforce investment, market stability, and householder confidence and experience.
- **Complex and restrictive eligibility:** Dual eligibility criteria requiring households to be in receipt of specific welfare benefits as well as having a poor EPC rating, which excludes many fuel-poor households who were the target beneficiaries.
- **Administrative overload:** Dual burden of requiring different evidence for eligibility checks and TrustMark quality checks, resulting in greater administration, making many projects economically unviable for local operators, which then favours larger national contractors.
- **Poor quality assurance and fraud:** Dispersed and fragmented regulation and oversight creating unclear accountability. By November 2024, Ofgem estimated that £56–165 million had been fraudulently claimed across thousands of homes through ECO[2].
- **Regional disparities:** Market-led delivery produces stark geographic inequalities, with a clear north-south divide. London, in particular, had the fewest ECO-funded installations per 1,000 households.
- **Weak consumer protection:** Hard to navigate complaint processes, industry guarantees proving inadequate, and no single entity accepting responsibility for remediation, leaving households not knowing where to go for redress.
- **Missed opportunity:** ECO4 Flex was designed to allow local authorities to extend eligibility to additional fuel-poor households in their areas. However, ECO4 Flex only delivered an estimated 0.5% of the ECO4 obligation, despite being allowed to account for up to 50%[1].

Barriers to retrofit through ECO

Research participants identified a wide range of barriers preventing eligible households from accessing support:

- **Eligibility confusion**: Householders and practitioners found the criteria too complex to understand or communicate.
- **Process fatigue**: Long timescales, extensive paperwork, and poor end-to-end household journey with multiple touch points overwhelmed many households, especially those classed as vulnerable.

- **Distrust and misconceptions**: Confidence in ECO was low due to general misconceptions, negative press coverage of poor workmanship, high-profile safety incidents, and perceptions of it being a scam.
- **Accessibility gaps**: Language barriers, digital exclusion, and disabilities made navigating the scheme difficult for some of those most in need.
- **Impact on the home and daily life**: Fear of disruption, loss of privacy, and concerns about property changes, especially with regards to ventilation and space, caused householders to disengage.
- **Installer trust**: Householders felt they had no choice of installer, compounded with negative early interactions led to dropouts. Perceptions of cowboy contractors exacerbated public scepticism.
- **Lack of aftercare**: Poor post-installation support left householders unable to realise the full benefits of their upgrades, damaging satisfaction and word-of-mouth referrals.

The future: Transition to the Warm Homes Plan

ECO delivered real and lasting improvements to millions of homes, but its overall impact and potential were undermined by poor design, fragmented accountability, and a cost-driven approach that prioritised volume over quality. The transition to the Warm Homes Plan in 2027 is an opportunity to reset the delivery of home energy upgrade support in Britain, but only if the lessons of the past are genuinely learned from.

The shift to local authority-led delivery is viewed with cautious optimism. It creates opportunities for more locally tailored, area-based approaches — a model widely regarded as more effective. However, significant concerns remain as the details are yet to be finalised and local authority capabilities are unknown. Concerns include:

- Many local authorities may lack the experience, capacity, and resources to manage retrofit programmes at scale.
- The poor utilisation of ECO4 Flex raises doubts about local authorities' readiness to take on a substantially larger delivery role.
- Whether a local authority-led model will lead to a postcode lottery for home energy upgrades based on local authority capabilities and the availability of the supply chains in an area.
- Whether funding levels per household will alter to allow greater depth of intervention and treat more properties that were previously viewed as not being commercially viable under ECO, especially as more expensive heat pumps and solar panel measures are the focus.
- The electrification ambitions for increased levels of heat pumps and domestic solar PV will place new demands on electricity grid infrastructure and require close coordination with Distribution Network Operators (DNOs), who have no prior involvement in these schemes.
- The role of the proposed Warm Homes Agency in improving oversight and quality control remains undefined.

Recommendations

Based on the research findings, the following recommendations are made for the design and delivery of future home energy upgrade schemes:

<u>Householder experience recommendations:</u>

- **Put householders first**: Introduce caseworkers, intermediaries or a one-stop shop model to provide continuity of support. Schemes should deliver interventions that are focused on the effectiveness of householder outcomes rather than driving the lowest cost. Aftercare post-installation should be built in as standard as well.
- **Develop better referral pathways to reach those most in need**: Create stronger links with health, social care, and community organisations to reach vulnerable households who are unlikely to respond to advertising alone.
- **Improve protection for tenants and engage landlords**: Provide tenants with stronger protections against rent increases and eviction following upgrades. Engage and educate landlords on retrofit and their obligations under Minimum Energy Efficiency Standards.

Delivery support recommendations:

- **Support local authorities through the transition:** There should be support provided to local authorities to assist them in developing their capabilities, so that delivery is more equitable across the country, and they benefit from the experience of others who have delivered previously.
- **Harness existing knowledge and data**: Support an effective transition from energy companies to local authorities by enabling knowledge transfer and better use of data to target efforts and verify eligibility, including integration with HMRC for income level checking and past install data, and energy company data on high debt and priority groups.
- **Level the playing field for SMEs and local installers**: Local and trusted installers are beneficial in the delivery of home energy upgrades and supporting communities, but many are unable to compete due to increasing pressures and administrative burdens. Support should be given to assist the growth and development of smaller installers by reducing the administrative burden, providing processes and templates, and finding ways to generate leads for potential household recipients nationally or regionally.
- **Invest in clear, consistent national and local communications**: Launch nationally led campaigns to address misconceptions, rebuild trust, and promote the health and comfort benefits of retrofit, not just financial savings. Supported by local activities, case studies and demonstration homes. To support both subsidised and able-to-pay home energy upgrades.

Scheme design recommendations:

- **Create stable conditions for the retrofit industry**: Provide a reliable long-term pipeline of work, clearly defined quality assurance roles, and route for remediation when installations go wrong, as well as stimulate investment in green jobs and training.
- **Simplify and streamline scheme eligibility and administration:** Reduce bureaucracy and make criteria easy to understand, communicate, and administer. Including flexible funding to support harder-to-treat and larger properties that have consistently been left behind.
- **Ensuring retrofit programmes are fit for the future** by designing them with flexibility in mind to suit the property, householder and future occupants and environment. This should also factor in post-install advice to ensure maximum benefit.
- **Explore property-focused and area-based eligibility**: Target low-income areas with blanket campaigns to remove eligibility barriers, reduce stigma, and achieve economies

of scale. Or base eligibility on the property, not the householder, as it's the property that needs upgrading and households can be transient and dynamic.

- **Embed community organisations in delivery**: Area-based and community-led delivery can increase uptake and conversion with the support of community organisations. Community organisations are well-placed to drive demand, build trust, and provide local intermediary support, as well as assist local authorities in delivering.

Scenarios

To bring to life our recommendations, four scenarios were developed to show how home energy upgrade schemes could be developed in the future. These build on current best practices and offer some improvements, or support the transition and transformation of home energy upgrade delivery.

1. **Data sharing model**

A national or localised data gathering model that brings together information from householders, local authorities, retrofit professionals and funders. It is designed to be an open source of data that supports the improvement of home energy upgrade delivery through the empowerment of better data and information.

2. **National toolbox & portal**

A national toolbox and portal that is available to everyone to support the delivery of home energy upgrades through consistent information and messaging. It would include communications, advertising, standardised processes, template documents, signposting and much more.

3. **One-stop shop**

The one-stop shop provides a single place to support householders through the home energy upgrade journey alongside other compatible services, to build trust and ensure support is given at the right level. By introducing someone who is there throughout the journey, it should reduce confusion, mistrust and dropouts.

4. **Targeted approach for higher deprivation low-income neighbourhoods**

This is a targeted scheme that will deliver funding into the areas that are most in need and enable a blanket approach so that all households can benefit where possible. It enables community-led engagement and trust to be built to support the scheme in delivering higher levels of participation and home energy upgrade take-up.

2. Our Approach

The purpose of this research is to develop a deeper understanding of how the design of government policy and home energy upgrade initiatives has impacted the experience of householders seeking to access home energy upgrades. Additionally, we sought to gain insights into the opportunities for future policies and schemes like the newly launched Warm Homes Plan to improve household experiences, particularly those deemed fuel-poor.

We initially conducted a literature review to chart the history of funded home energy upgrade schemes in the UK, analysed the recent and prospective retrofit policy landscape, and assessed the

impacts at a national scale. We supplemented this with qualitative data detailing experiences of both householders and professionals engaging with the ECO4 scheme.

The data was gathered through three focus groups and five one-to-one interviews. In total, we spoke to 21 participants: four householders, five installers, one managing agent, three staff from energy suppliers, and eight Repowering London staff members. The case studies were both with householders who had attempted to access home upgrades through ECO4 and included one positive and one negative case study. The themes detailed in the analysis and the recommendations were derived from analysis of both the literature review and the focus group and interview data.

Limitations

Repowering London is a practice-based organisation, working with communities and delivering community-centric renewable energy and retrofit projects in London. Many participants in this research were recruited via Repowering London's professional and community networks. While the research sample included participants from across the UK, there is a strong geographic bias toward London in the findings – with particular regard to the householders and Repowering London staff focus groups.

It is also acknowledged that some participants in the householder focus group and case study interviews were familiar with Repowering London prior to this research and, in some cases, have directly participated in projects delivered by Repowering London.

3. History, delivery & future policy direction

3.1. Evolution of supplier obligations

Britain has a long history of supplier-led home energy efficiency schemes to fund home energy upgrade measures and low-carbon heating to achieve energy savings, starting in 1994. The first scheme, the Energy Efficiency Standards of Performance (EESoP), tested the energy suppliers' capability to deliver energy improvements with very low-cost interventions. The schemes were then expanded, and the focus shifted in the Energy Efficiency Commitment (EEC) in 2002 to be more targeted to priority groups. In 2008-9, the energy companies were given two obligations: the Carbon Emissions Reduction Target (CERT) and the Community Energy Saving Programme (CESP). CESP brought greater targeting through specific geographic areas being identified and incentivising multiple measures per property and high installation density.

In 2013, these schemes were replaced by the Energy Company Obligation (ECO), which has undergone four iterations and is set to conclude in 2026. The table below highlights the key details of these home energy upgrade schemes.

Scheme	Focus	Eligibility	Target audience
EESoP 1994-2002	Household energy savings from insulation, heating & advice	All households and vulnerable households	Some targeting of low-income households, income –related benefits and pensioners
EEC 2002-2008	Expanded focus, energy savings & fuel poverty	All households plus priority group target	Priority group - low-income households, income –related benefits and pensioners

CERT 2008-2012	National - insulation, heating & lighting	All household plus a 40% priority group target	Priority group of aged 70+, disability & income-related benefits
CESP 2009-2012	Low-income areas (10% lowest in England & 15% Scotland & Wales)	Living in the LSOAs areas defined – social and private housing qualified	Low-income households in the most deprived areas
ECO 2013-2015	Carbon reduction & fuel poverty	Carbon Emission Reduction Obligation (CERO) – insulation for all Carbon Saving Community Obligation (CSCO) – insulation for low-income areas with a rural sub-target Home Heating Cost Reduction Obligation (HHCRO) – heating & insulation for fuel-poor & vulnerable households	General population, low-income & vulnerable, specific geographical area
ECO2 2015-2018 including ECO2t transitional scheme	Carbon reduction & cost savings	CERO – Hard-to-treat insulation CSCO – low-income & rural sub target HHCRO – heating focused for low-income & vulnerable households	General population, low-income & vulnerable, specific geographical area
ECO3 2018-2022	Fuel poverty through heating & targeted insulation	Benefits & income, EPC D-G social housing, rural and solid wall sub targets	Low-income, fuel-poor and vulnerable households, rural and solid wall properties
ECO4 2022-2026	Fuel poverty & low-income	Benefits & income ECO4 Flex – widen criteria by local authorities	Properties rated EPC D-G & vulnerable households
Great British Insulation Scheme 2023-2026	Low-income & specific property types	Income level on eligible benefits and/or EPC D-G with Council Tax A-D in England, or A-E in Scotland and Wales	Low-income households Properties in low Council Tax bands

Each of ECO's four iterations has taken different approaches and priorities:

ECO1 delivered the most measures overall, with heavy emphasis on cavity wall and loft insulation, which were relatively straightforward and lower-cost interventions[5].

ECO2 continued with similar upgrades but operated on half the budget, constraining its scope.

ECO3 and ECO Help-to-Heat ran concurrently, shifting the focus toward heating controls and underfloor insulation, and away from supporting gas heating.

ECO4 focused on more extensive retrofit of fuel-poor and energy inefficient homes. Eligibility for ECO4 was determined through dual criteria: 1) at least one household member must be in receipt of a qualifying benefit; 2) the property must be classified as hard-to-heat, typically demonstrating an Energy Performance Certificate (EPC) rating of D-G if privately owned or E-G if rented, or be referred through local authority flexible eligibility (ECO4 Flex) mechanisms [4].

As a levy-funded scheme that was funded through consumer energy bills, it seems there have been pressures to minimise the cost of scheme delivery rather than invest in robust oversight mechanisms or the skilled workforce requisite for comprehensive retrofit delivery[5]. This drive and focus to minimise costs have led to the simplest interventions being prioritised over the needs of intended fuel-poor households and a marketplace driven by price not quality. This has called into question the suitability of supplier obligation-led home energy upgrade schemes.

Through ECO schemes, the public has invested more than £13 billion (in 2025 prices) in upgrading almost 2.6 million homes[1]. But the journey of delivering these home upgrades has not been easy or without issue.

The ECO4 scheme, in particular, was not set up to support area-based or street-by-street approaches that enable greater economies of scale by delivering higher numbers of installations in an area. The complex messaging around eligibility for both householders and the property also made it increasingly difficult to communicate this broadly without setting unrealistic expectations or delivering overly complicated messages. In contrast, the Boiler Upgrade Scheme (BUS) has been simpler to navigate and communicate.

ECO4 Flex was designed to give local authorities discretion to support households that did not meet the standard ECO4 eligibility criteria but were still considered low-income. ECO4 Flex was an optional element, but energy suppliers were able to deliver up to 50% of their obligation through this. However, uptake from local authorities has been lower than anticipated and patchy across the country, as some local authorities have not engaged with the scheme as much as others. Ofgem has estimated that only 27% of England's ECO4 was delivered through ECO4 Flex[1].

Alongside the ECO4 obligation was also the Great British Insulation Scheme (GBIS), which was designed for any household with a property with an EPC rated D-G and a council tax band A-D. Low-income households could access free insulation, and other households meeting the property criteria could be eligible for a single measure for free or may need to contribute to the cost of the work. Contributions from householders were encouraged, but did not widely materialise, making the scheme unattractive for installers and energy suppliers because single measure installation prevented economies of scale.

There were also two other schemes running from 2020 that were not energy supplier obligated schemes. These were the Local Authority Delivery (LAD) scheme as part of the Green Homes Grant, which ran in three phases between 2020 and 2023, and the Home Upgrade Grant (HUG), which ran two phases between 2022 and 2025. Both of these schemes were targeted at local authorities and required them to apply for funding with project proposals. The LAD schemes focused on home insulation and renewable heat in low-income households and homes with EPC ratings of D-G. HUG also targeted a similar audience, but the HUG2 focused on those without gas heating and had a rural subset of 60%.

Following on from the HUG scheme, the Warm Homes Local Grant (WHLG) was introduced in 2025 in England, which is also administered by local authorities or combined authorities. It offers insulation, air source heat pumps, smart controls and solar PV to properties with an EPC

rating of D-G that are low-income households or those in receipt of certain benefits or simply within particular postcodes deemed low-income areas.

3.2. Impacts on the industry

It is widely accepted that the retrofit industry needs investment, training and growth to both meet Britain's net-zero ambitions and to improve its ageing housing stock. However, the market conditions created by the home energy upgrade schemes have not sufficiently managed to sustain this growth and development that they started. One of the biggest criticisms of home energy upgrade schemes over the last two decades is how they have been deployed and rolled out.

The number of changes and delays between schemes has been to the detriment of the industry that the schemes have been trying to grow, and has resulted in stop-start activity that undermines the market and reduces confidence. The shifting eligibility criteria and delivery requirements compounded the boom-and-bust cycle in the retrofit market[6 7]. Each new phase requires the supply chain to re-establish itself, reconfigure business models, and interpret new compliance expectations. This leads to slow progress at the start of each scheme[2 8] and constrains firms' ability to invest in training practitioners to develop a specialist workforce, as each iteration has demanded markedly different skills.

> *[Installers have to change their delivery model every four years and diversify, and will have to do this again.] Energy supplier*

ECO4 in particular required the industry to pivot delivery significantly from single-measure interventions to a whole-house with multi-measure approach. This represented a profound escalation in technical complexity, introduced into a demonstrably immature supply chain without adequate skills development, or transitional support[2]. It also stipulated a fabric-first approach before heating, which drove the share of homes getting solid wall insulation installations from just 8% of measures in 2022 to 31% in 2023 and 41% by 2024[9]. This overwhelmed the supply chain capacity during a difficult period post COVID-19 pandemic, followed by the energy crisis. The target was also switched from annual bill savings to measures installed, resulting in smaller properties being targeted.

Procedural complexities of ECO4 in particular have created substantial barriers for both practitioners and householders, which has increased the administrative burden of managing the scheme. From 2013 to 2020, administration costs accounted for ca. 10% of ECO budgets[2]. The eligibility criteria and requirements of TrustMark and need to meet PAS 2035 and 2030 standards in ECO4 have increased the level of administration required, making it especially burdensome for some smaller installers, and some work has become economically unviable [10]. This has resulted in deterring local, competent installers in favour of large contractors who have dedicated compliance teams, as the smaller companies do not have the time or support to apply for grant-funded work due to its complex processes [11].

To overcome some of these issues, some smaller installers are working with managing agents or as part of cooperatives so that they can access grant-funded work. One example of this is RetrofitWorks' installer network, which provides opportunities to access larger projects and support in delivering home energy upgrades whilst offering access to tools and training.

Installers were also victims of the instability of the pipeline of work from energy suppliers who controlled the funding, which ultimately dictated what measures were funded and at what rates. The installers were often left without guaranteed funding or knowing whether eligible properties would be viable due to cost-effectiveness.

There was a lack of oversight due to dispersed regulation to manage quality, compliance and assurance as it created "unclear and fragmented roles, responsibilities and accountabilities"[2]. These weaknesses, compounded by conflicts of interest embedded within the delivery model, left the scheme open to fraud. The true scale of the fraud is unknown, but by November 2024, Ofgem estimated retrofit businesses had potentially falsified claims for installations in 5,600-16,500 homes, fraudulently claiming £56-165 million from energy suppliers[2]. This has resulted in investigations being opened by the Serious Fraud Office.

3.3. Effects on householders

Home energy upgrade schemes on the whole can have a positive impact on householders, with many making savings on their energy bills. DESNZ estimates that the total annual bill savings to the end of December 2025 from measures installed under the ECO4 obligation is £210.5m[1].

One of the biggest impacts on householders from the ECO schemes has been the level of poor quality installations that have arisen despite an intended greater focus on consumer protection. Although ECO4 was designed to increase consumer protections by moving quality assurance from the energy suppliers to TrustMark, the systems it introduced comprehensively failed. There were two key failures: 1) weak quality assurance systems, and 2) poor remediation support[2]. Ofgem's focus was on measuring and auditing the energy suppliers in meeting their obligation in terms of installation volumes, CO_2 reductions and projected bill savings, not the quality of the installation or the household impacts. This approach meant a continuation of prioritising cost minimisation of the scheme over quality, which has led to more expensive delivery in the long run.

Remediation processes have been excessively complex due to the unclear, fragmented and overlapping roles of regulators, certification bodies, scheme providers, installers and suppliers[2]. This has led to no single entity accepting responsibility. It can be incredibly difficult for consumers to navigate complaints or enforcement, as installers can avoid accountability by shifting between certification bodies or operating outside schemes, thereby enabling rogue traders to operate [12].

Industry guarantees for 25 years, such as SWIGA and IAA, were also found to provide inadequate consumer protection when tested at scale, leaving the unresolved question of who bears the financial responsibility for remediation [12].

3.4. Perceptions of retrofit

The lack of both a central approach and accountability for retrofitting UK homes has led to uncoordinated and conflicting messaging regarding funding and how to access support. It has largely been left to the market to drive awareness and interest, with frequent scheme changes making deployment/promotion of messaging harder and undermining confidence and stability.

Research has shown that there has been an information overload with a lack of clear and tailored advice, with households struggling to find trusted sources of information[13]. The schemes were heavily reliant on financial or environmental incentives to drive demand, which does not sit well with the fragmented supply chain that delivers retrofit [13].

The misconception around retrofit, combined with some of the negative press about failed installations and poor workmanship or cowboy contractors, has reinforced the element of distrust in the industry.

Perceptions of retrofit as a barrier are explored further in 4.5.3.

3.5. Regional disparity

There has been little direction on where the funds from the energy company obligations were allocated over their history in terms of geographical location. The CESP scheme was the one of the few dedicated schemes that focused on geographically defined areas (Lower Layer Super Output Areas) overlayed with fuel poverty, as the target areas were the most deprived areas in the country. During ECO1 and 2, the CSCO element continued to direct some of the funding towards these areas. This ensured that the funding was directed into the areas most in need of support and enabled an area-based approach. This has subsequently been brought back in one way under the Warm Homes Local Grants, as funding is available for local authorities to deliver energy performance and low-carbon heating upgrades to low-income homes in England.

Other than the CESP scheme, the take-up of the funding was driven by the market and the energy suppliers agreeing to fund the measures, which has led to regional disparities in delivery. There are regions where the level of retrofit activity has been much higher due to the presence of highly active councils or organisations that engaged with energy suppliers to fund their insulation and heating programmes. For example, one of the most ambitious local authority-led area-based schemes was Kirklees Warm Zone, which ran from 2007 to 2010. It focused on insulating the whole council area using CERT and Warm Front priority group funding alongside council funds. The Warm Zone scheme achieved 42,999 loft insulations and 21,473 cavity wall insulations in 51,155 households, accounting for over 30% of the housing. A further 35%+ of housing surveyed met minimum insulation levels[15].

There are other factors that contribute to regional disparity, which include housing stock and cost-effectiveness. Across the four ECO schemes from 2013 to 2025, London has been consistently underserved. As the table below demonstrates, every other nation and region received more measures per 1,000 households than London[16], despite having 10.3% of the fuel-poor households across England, which is the second highest in the country[17]. There appears to be a north-south divide in terms of performance with the northern regions and counties exceeding the delivery of the southern regions.

Region	Households Upgraded	Per 1,000 Households	vs. London Gap
North West	438,025	133.6	+82.2
North East	153,411	125.5	+74.2
Scotland	331,864	128.9	+77.6
West Midlands	299,128	118.4	+67.1
Yorkshire and The Humber	276,636	114.3	+63.0
Wales	142,111	101.4	+50.0
East Midlands	197,283	92.7	+41.3
South West	177,024	69.0	+17.6
East	166,347	60.6	+9.3
South East	223,054	56.0	+4.7

London	183,625	**51.4**	—
Great Britain	2,588,508	91.1	+39.7

When you compare Inner and Outer London, there are also significant differences with Inner London underperforming as a whole, with a lower proportion of measures per 1,000 households being installed. There was also very poor take-up of ECO4 Flex in London, with only 1% of the total measures installed taking place in London, with only 0.2% in inner London[1].

[There are huge regional disparities in access, eg london misses out] Energy supplier

Reasons given for regional disparity include supply chain economics of uniform housing stock, higher fuel poverty rates, and freehold ownership [18], as well as ECO delivering predominantly to houses not flats. The lack of cost adjustments and access issues to support dense urban areas and increased costs of installing in London have resulted in households being deemed financially unviable for many installers under ECO funding [19]. Dense urban areas like these need mechanisms for whole building upgrades that require freeholder or managing agent approval, communal heating systems and multiple dwelling installations, as well as cost uplifts for London.

3.6. Roles of stakeholders

The key players in the ECO schemes' delivery have largely been energy suppliers, installers and managing agents, lead generation companies that support householders in accessing grant-funded schemes, with some local authorities playing an active role, and to a lesser extent third-party agencies such as one-stop shops or full-service providers. Examples of these include People Powered Retrofit that serves North West England, and Changeworks models in Scotland. Other players that have been involved in the delivery include community-led organisations and groups (such as Retrofit Balsall Heath), advice agencies (like the services provided by the Centre for Sustainable Energy). However, community organisations struggle with the administrative burden of ECO, compliance requirements and procurement rules, which can prevent them from playing a greater role in the delivery. This will not necessarily be resolved with the local authority model in the Warm Homes Plan either.

The role of the energy supplier as the funder with a necessary value for money approach to delivery has led to the lowest cost households receiving measures rather than an integrated approach to meet the needs of fuel poverty households or coordinated community-led approaches that can build trust. This has prevented the wider involvement of community-led or community-focused organisations who can support place-based approaches to build trust and help overcome cultural, social and economic barriers [20]. Likewise, installers are seeking the opportunities that generate the most profit, so they seek out the easiest to install and prioritise the ability to install multiple home energy upgrades in each home.

3.7. Future direction

Energy company obligation schemes will come to an end in 2026, as ECO4 winds down after the March 2026 extension to December 2026 when it ends. The Warm Homes Plan sets the ambition to have a new scheme in place from January 2027. This will see a significant shift in delivery from the energy companies to the local and national government.

The Department for Energy Security and Net Zero (DESNZ) will be overseeing the national rollout of the Warm Homes Plan and its delivery. The main delivery route is anticipated to be through

local authorities or combined authorities, who are expected to identify households and manage installations through delivery partners.

The Warm Homes Agency is a new agency proposed to improve oversight and ensure quality control.

This switch to local authority delivery is seen as both positive and negative. It is a positive move as it creates local focus and control to manage retrofit programmes. However, this adds to the growing burden on local authorities to deliver where many do not have the capacity or the experience to do so. It presents a great opportunity for local authorities to guide retrofit delivery in their area and build a delivery model that works for their residents and housing stock, as well as create local jobs and integrate community organisations. However, local authorities will need the support of trusted and experienced partners or mechanisms to support them so that they can start delivering to avoid the risk of a postcode lottery for householders. They will also require quality assurance and fraud prevention mechanisms that would be best suited to a national standard and framework.

The full details of how the Warm Homes Plan will be implemented were not published at the time of the release of this report.

4. Barriers to retrofit through ECO

Repowering London and Possible conducted research with a range of people involved in delivering ECO to gauge first-hand the barriers to retrofitting low-income households and the lessons that could be learned from the ECO schemes. This included householders, landlords, energy suppliers, installers, and managing agents.

4.1 Scheme criteria

There is a lot of anecdotal evidence about the frustrations that both householders and delivery partners had with the scheme criteria due to its rigidity with the home energy upgrades that could be installed and the householder eligibility.

The scheme criteria were viewed as complex, particularly for fuel-poor households that already face financial, time and resource constraints[21], and when you couple this with their high risk-aversion due to financial precarity[22], it created a difficult barrier to overcome for many.

> *[Trying to explain eligibility criteria is really complex, they ask why can the neighbour get it and I can't?] Installer*

4.1.1. Householder eligibility

Both practitioners and householders found that the eligibility criteria and assessment process were too complex, with often no clear upfront criteria to measure against. One energy supplier commented that those most in need were not eligible. A report by BEIS in 2022 found that 44% of measures reached the fuel-poor using the owner-occupied, benefit eligible household criteria[23] and the other 56% were not classed as fuel-poor households.

The income eligibility criteria were perceived as intrusive, and practitioners reported that many householders were reluctant to provide supporting documentation. Some feared that disclosing their income or benefits could lead to reductions or loss of support, contributing to higher drop-out rates. A trusted, local intermediary might be better placed to support and advocate for householders rather than installers when it comes to verifying eligibility and confidentiality.

The process could also take months and lacked the flexibility to respond to changes in a householder's circumstances, further increasing the likelihood of applicants dropping out. The eligibility criteria also does not reflect the diversity of circumstances within the household, eg one parent households against a two-parent household.

4.1.2. Property eligibility

ECO4 introduced a second layer of complexity, specifically property eligibility, where the property had to have an EPC rating of E or below if privately rented, or a D or below rating if privately owned property. This added layer of complexity was confusing for householders and required an up-to-date EPC. Practitioners reported that EPCs could be incorrect, and the banding could restrict the support that could be offered to households. This is supported by a report to the House of Commons that highlighted boilers were prioritised over low-carbon alternatives[24].

> *[Rigid criteria in terms of improving EPC bands mean some vulnerable customers miss out.] Energy supplier*

The tenure of the property was also an issue, as practitioners raised concerns that private rented properties were difficult to work with. Landlords were often considered difficult to engage with and unwilling to give permission for work or contribute if it was required. This made it harder to engage with the rental population, who are generally in the most need of support.

The properties could also be eligible on paper, but not be financially viable due to the funding available and the level of work needed. There was often no way to fund the shortfall if the householder or landlord could not afford to contribute. There were also issues with properties being in a poor state of repair or with restrictions on the property. Practitioners said this left many homes commercially unviable and were therefore rejected or classified as ineligible.

> *[The way ECO4 is set up, some properties need external wall insulation, but some of those houses are simply too big for the numbers to work. The amount of work that needs doing does not make sense financially. Usually because the homeowner is in fuel poverty, they can't top up the difference. So you're left with no choice but to walk away] Installer*

Some properties could not be treated with standard insulation methods due to their construction type or materials. Not all these properties are identified as being not suitable for standard insulation and can be insulated incorrectly, leading to issues post-installation.

4.1.3. Measure eligibility

The ECO schemes put fabric first as a priority and had an impact assessment cost based on modelling carried out by DESNZ that could not be exceeded, which resulted in inflexibility in terms of what home energy upgrades could be installed to meet the criteria and the funding level. Without top-up contributions during the ECO4 period, renewable energy and low-carbon heat solutions, in many cases, were prohibited.

Installers in particular saw an increase in solid wall insulation enquiries, and the cost per property was an issue when they surveyed bigger homes. If the insulation in the property was not completed, the household was not eligible for other upgrades.

Householders would also seek funding for specific home energy upgrades and not be interested in other options. This was often the case with window upgrades for example, a common reason for people to consider retrofit, yet it is not an eligible measure.

4.2. Processes

The ECO4 processes are driven by the criteria and paperwork requirements that form the backbone of the scheme. Yet with a lack of industry standardisation each energy supplier and installer had their own processes to manage these.

> *[It was a really taxing process, they wanted so much paperwork] Householder*

Both householders and practitioners stated that the processes were long and taxing with unnecessary bureaucracy that can fatigue beneficiaries. There was a heavy requirement for evidence and assessment that required a lot of paperwork and administration, as well as many touch points with the householder, which creates an unnecessary burden on installers.

Householders and some practitioners also raised transparency as an issue. There was no clear guidance on what the cost could be from the outset and often a financial contribution is not mentioned until later stages. Householders found this misleading and prohibitive in being able to access the scheme.

The coordination of the process from enquiry through to installation could be overwhelming and confusing for some householders due to the number of parties involved, the requirements and the lack of communication provided. Some practitioners also mentioned retrofit assessments expiring due to the length of time it took to get the home energy upgrades installed, due to the changing market affecting funding.

4.3. Understanding

Householders often do not take an interest in ECO because they are not specifically looking for insulation or heating improvements, they just want to reduce their energy bills or have a home that is comfortable and healthy to live in. They do not understand the options available to them, or how they function to make informed decisions on them, they just want their situation to improve. Many vulnerable householders are unlikely to seek out these options and would not be confident in making decisions themselves.

There is fear of the risk when it comes to the lesser-known technologies and many misconceptions about them, especially for vulnerable householders who require more handholding to support them through the process. This is supported by research undertaken by Betteridge et al[25] who found many householders lack the technical knowledge and confidence necessary to interrogate proposed approaches, challenge recommendations, or identify potential issues, placing them at considerable disadvantage when attempting to exercise meaningful oversight[25]. As a result, householders can feel that retrofit is being ‘done to’ rather than ‘done for’ or ‘with’ them.

The ECO scheme is complex, and many householders are unable to understand how it works and whether they are eligible. Many households can wrongly assume that they are ineligible. Those who sign up to the scheme often do not realise the full extent of what they have signed up to, and as it becomes more apparent, they drop out as they do not want the intrusion or disruption to their home.

What does not help is that the industry struggles to articulate the scheme to householders in a clear and user-friendly way because the criteria are not straightforward or clear-cut. The ECO4

Flex element muddies the water further, as local authorities can use their discretion to extend the eligibility criteria to support fuel-poor households that miss out based on the core criteria. These criteria are not set in stone and can vary by area and circumstances, so publicising what the eligibility criteria are in a clear and concise way becomes very difficult.

4.4. Accessibility

Accessibility is a particularly important issue for vulnerable households. A BEIS report[21] found that the complexity of ECO4 was acting as a structural barrier that was disproportionately excluding fuel-poor households, who were the intended beneficiaries. It highlighted reduced capacity to navigate the administratively complex system due to social exclusion, digital exclusion, language difficulties and disabilities.

Practitioners found that accessibility was a particular issue in terms of language and the need for higher levels of support throughout the process. Language issues are two-fold, as there are general language barriers where English is not spoken or the first language, but also the use of inaccessible or technical language around retrofit can be exclusionary. Either additional support is needed to assist households, or they drop out as they are unable to effectively engage with the process or understand. As an example, ventilation was often misunderstood by the householder and seen as counterproductive to the insulation, and it was hard to communicate the value. As a result, some householders dropped out as they did not want the ventilation as part of the solution.

4.5. Messaging & misconceptions

4.5.1. Recruitment & targeting

There is little oversight in terms of coordinating or targeting support to householders, as there is no central strategy/communications function, no ability to see where work has previously been undertaken to aid targeting and no data sharing with HMRC on income level checking for instance, to better target households or check eligibility based on income.

Lead generation companies are commonly used to support installers and energy suppliers in generating the number of householders they need at low cost. However, lead generation companies are profit-driven and targeted by numbers, so often treat householders as a commodity. They are not concerned with handholding or supporting vulnerable households, and are not held accountable for the expectations that they set.

4.5.2. Messaging

Unrealistic messaging at the beginning of the process or during recruitment advertising can set the wrong expectations, which can lead to failure for all parties. The householder did not get what they wanted and feels let down, and the installer/managing agent wasted time and money on a householder that did not progress to completion, so gets no funding.

These types of messages and experiences cast a shadow on the scheme, as word of mouth will create doubt about the scheme and its legitimacy.

4.5.3. Misconceptions & bad press

ECO4 has received significant bad press and attention that focused on poor workmanship. This, coupled with other high-profile stories such as the Grenfell Tower fire due to combustible cladding, has put retrofit in a negative spotlight. This type of publicity increases the levels of mistrust in retrofit and heightens the level of safety concerns.

There are also many misconceptions around home energy upgrades that stem from a lack of understanding and no central communication about the schemes and promotion of the

benefits of installing these upgrades. This can be exacerbated by distrust in government schemes and free schemes being viewed as too good to be true or even seen as scams.

4.6. Impact

One of the most prevalent reasons for householders dropping out of home energy upgrade schemes was due to the negative impact it was having on them or could have on them, or worries about the impact on their home.

4.6.1. Individual impacts

The process alone can be arduous for householders, but when you add in the complexities of installing upgrades and the disruption that can be caused, it can overwhelm people. Many fuel-poor households can have occupants with a physical or mental health condition, who can be greatly affected by the stress and anxiety of having installers in the home. They may also struggle to prepare their home prior to the works e.g. clearing space, and no budgets were available to support the householders with these tasks unless local support agencies were found. All of these factors can result in households dropping out. However, these households are some of those in the most need, as their condition could be worsened by their home being cold and damp.

The level of engagement is not always clear upfront in terms of assessments and access requirements to the home. Some householders can struggle with providing this level of time or requiring family members present to support them when they have other commitments.

Some householders found the process intrusive and were worried about losing their benefits or the neighbours finding out they are recipients of benefits because they had their home upgraded. Those in rented homes were also worried that their rent might increase as a result of the upgrade.

There are also cultural sensitivities to consider, for example, about females being alone in the home during appointments.

> *[It was really very intrusive, they want to know all about your finances] Householder*

4.6.2. Home impacts

The potential impact and changes to the home were also a significant barrier, as some householders were worried about the effects on their home and any potential damage. Some were concerned about how the appearance of their home might change, and that the character might be lost. They were not confident in being able to oversee the installation themselves and were unsure about redress should things go wrong.

Practitioners said that people were not always certain of the benefits of the home energy upgrades, as householders on ECO schemes were not given as much information as paying customers, as it was deemed to be free. It can also be seen as too good to be true, as a sales pitch can be biased. This sometimes meant that they did not fully understand the value of the work when faced with the level of disruption it could cause, which could result in them dropping out. They were also unsure about how the home would appear after the work was completed.

Also described were particular concerns about the ventilation when installing insulation and losing space if internal wall insulation was installed.

Many of these factors are issues around fear of the unknown and lack of control in their own home, borne from a lack of information.

4.7. Installers

The initial experience with an installer was seen as crucial, as this sets the expectation on how the relationship between them and the householder will continue. Some householders did not get a choice of installer, so if they did not like the one allocated, they could drop out as a result. Some householders had a bad experience where they felt a lack of respect or were not listened to, and were unable to trust their installer.

There was also fear about getting an untrustworthy installer, as there were a lot of bad actors installing home energy upgrades. Practitioners who supported households and energy suppliers were also concerned about the level of bad actors in the market and cases of fraud, and the lack of protection for vulnerable households.

4.8. Aftercare

Aftercare is post-install, so not a barrier as such for householders receiving upgrades, but their experience can impact what they tell other people. Word of mouth about lived experiences is one of the most powerful recruitment tools, but also one of the biggest detractors if the experience is bad.

A report for the Committee on Fuel Poverty highlighted that there was a lack of post-install information and handover, such as understanding how to operate their new heating system[26]. This post-install service could be delivered by local intermediaries who are more accessible, approachable and trusted. Householders said that there was a lack of aftercare support, which worsened the experience. The householders would have benefited from support in managing their new upgrades and understanding how much they were benefiting from undertaking the upgrades, as well as being able to access support in rectifying issues.

5. Improvements & the future

5.1 Improvements

> *[ECO needs to be simpler and more flexible, with strong quality and assurance that holds installers to account] Energy supplier*

Householders and practitioners were asked in the discussions whether there were any ways the home energy upgrade scheme could be improved in the future to help increase the effectiveness of delivery and reduce the barriers people faced during ECO. This section explores their thoughts on how the scheme could be improved.

5.1.1. Scheme management and eligibility

A key theme for improvement was to simplify the eligibility criteria and make it easier for householders to understand and for all parties to communicate the offer more effectively. By doing this, it would enable households to be more easily identified, for households to recognise that they are eligible and seek support. There was also a suggestion to support self-employed people better, as they can struggle to evidence their income as a low-income household, so more inclusive eligibility criteria should also factor this in as well.

There is a lot of evidence that many fuel-poor households miss out, and participants felt that widening the eligibility criteria would enable more of these households to be reached. A suggestion for doing this was to focus on the property types most in need within areas classed

as low-income and provide support to all of them. Simple property criteria would make managing the scheme easier and reduce the reliance on EPCs which is known to be problematic in terms of energy efficiency upgrades. There also needs to be support for those in properties that require remediation attention and any enabling works before home energy upgrades can take place.

> *[They should base the criteria on the type and condition of your home. My energy rating is F and the scheme should be able to help me, it should not be based on income, it should be based on the age of the property] Householder*

There were suggestions to improve the management of the schemes by putting in place more effective processes and systems, including support that assists householders in assessing their eligibility using online pre-assessment tools. They also suggested providing a single point of contact for householders who guide them throughout the process. There were also suggestions about installers being more involved in the earlier stages to gain trust and demonstrate the solutions, as well as increasing the visibility of management on larger schemes for householders to get support or give feedback. These types of improvements would increase awareness and communication, which could lead to more enquiries turning into completed installations and increased customer satisfaction.

> *[I found out there are factors that affect which measures you can install, limitations of your house and applicability. A simple pre-assessment of your house would be helpful] Household*

Some participants raised that more aftercare would be good, such as post-install inspections, aftercare support and a review a year later to give more advice, check satisfaction level, resolve any issues and discuss the benefits that had been realised. This would lead to fewer complaints, greater levels of customer satisfaction and a better reputation for the scheme.

Under the new proposals, local authorities will be delivering the schemes, and it was felt that they would need time to build capacity and resources to manage this. They would also benefit from the above improvements of reduced administrative burden, better processes, eligibility criteria and aftercare.

Improvements: Simplified and widened eligibility criteria
Property-based criteria
Support for households where remediation is needed before home energy upgrades can be done
More householder support tools and communications
Post-install aftercare
Improved scheme management to support local authority transition

5.1.2. Information and communication

Participants felt that communication was a key area where improvements could be made to increase the level of information on home energy upgrades and the benefits of retrofitting your home. They suggested making communications clearer using simpler language and messaging that attracts people for different reasons, not just focusing on low-income and benefit eligibility, but saving energy, increasing comfort and health benefits. It should also be tailored, where possible to different property types or individuals. This would increase awareness and engagement with the scheme.

There were also suggestions that there should be national messaging supported by local activity so that there is a more coordinated approach that provides consistency that can help build trust and confidence in the industry. This could include signposting and online eligibility to help people identify whether the scheme is right for them.

A community-focused approach that provided support for householders was identified as a better way to communicate with target audiences, as it could break through the noise and potential barriers. Community networks are ideally placed to support awareness raising and provide access to events, create local information points and be community-centred demonstrators. There should also be improved materials with better visuals of the technologies and explanations to support decision-making.

> *[Area based projects –when people see it happening on street it gives them confidence and uptake numbers will go through the roof] Installer*

It was also suggested that installers could be more proactive in earlier communications. This could involve showcasing their technologies or solutions in communities, or supporting open home-style events so people can see real-life installs and speak to householders who live with the home energy upgrades.

Improvements: Consistent and simpler messaging about home energy upgrades
Alternative messaging focusing on comfort and health benefits
Maximising community networks to increase awareness
More proactive installer communications and technology demonstrations

5.1.3. Relationship management

There was also another theme around relationship management with householders. This could lead to householders being more likely to take up home energy upgrades and increase customer satisfaction. Examples given were treating funding recipients similar to paying customers and not as commodities, as they are not paying. Other suggestions included providing support throughout the process, and recognising and addressing any cultural and language barriers.

Trust was also important and could be improved, and participants suggested ensuring that the process was transparent with information given clearly and upfront, as well as ensuring that it was communicated effectively when they were being referred to another company, eg managing agent to an installer. Having clear information about the process, who is involved, and any expectations on them would prevent any surprises and ease concerns.

> *"The biggest factor is communication, people need to know what's going on" Installer*

One intervention that could have a big impact and improve the experience would be to have a trusted intermediary that could advocate for the household, especially for vulnerable households, and be a single point of contact throughout the process. Installers could also be supported in understanding the needs of vulnerable householders better. For example, community organisations are well placed to perform this role.

> *[Providing a single case worker, single point of contact through the whole journey. Providing individual personalised, culture specific support] Practitioner*

Improvements: Better support and communication to householders throughout the journey
Address cultural and language barriers
Trusted intermediary service

5.1.4. Quality assurance and aftercare

Participants were keen to see improvements in the quality assurance process to ensure that poor workmanship is addressed, that installers are held accountable for their work, and there is a clear route for redress that results in swift rectification. Providing better consumer protections would not only assist in handling issues and complaints, but also improve the reputation of the industry.

There was also a need for clear accountability for the organisation carrying out the quality assurance, and avenues for installers to address any concerns where their work is felt to be unfairly judged.

This could be addressed by ensuring that the roles of funder, installer and auditor are carried out by separate organisations, as well as introducing better regulation on certification bodies to ensure there are no conflicts of interest.

Improvements: Better consumer protections
Clear separation of roles and accountabilities for quality assurance

5.1.5. Scheme design

Participants had many suggestions for improving the design of the scheme, which included clearer accountability and better role allocation to reduce ambiguity, prevent gaps and ease processes. It was also suggested that delivery accountability should remain even though energy suppliers were no longer the obligated party, but instead local authorities should have targets to support the fair distribution of funding across the country and prevent low uptake in some areas.

The scheme criteria was a key theme for improvement as it was a substantial barrier in ECO. It was suggested that there should be greater flexibility so that harder-to-treat properties and a greater number of fuel-poor households could be reached. This would assist with treating properties that are in areas that are more expensive to install in and larger homes that are not currently commercially viable. This would prevent a continuation of largely only the low-hanging fruit being upgraded, support more households and ensure installers are paid fairly for their work, as more jobs would be completed after the survey. There also needs to a way to incentive installers to work on a broader range of properties and not focus on properties that offer the highest levels of profits. One solution would be to decouple the funding from the measure type, so there is less reward for chasing the ideal properties, such as easy cavity wall insulations or solid wall insulation that match the sweet spot to maximise funding and profits.

It was felt that reducing the bureaucracy and administrative burden on the schemes would assist practitioners and householders, as well as reduce the cost for all parties. It was suggested that a system could be provided to support all parties, including the auditing process, to reduce this administrative load, especially for smaller installers.

The current schemes favour individual household approaches, and participants suggested that future schemes should be supportive of area-based or street-by-street approaches, including blocks of flats. This would enable more community or resident-centric approaches that could reach more households and establish greater trust, and could also support local workforce development.

[Single house retrofit journey won't work and scatter gun approach is "throwing darts in the dark"] Installer

One approach that is currently used in some areas and was positively viewed was a one-stop shop style approach, and it was suggested that this should be adopted further and combined with a people-first approach. Again, this would engender greater trust and could support householders through the process.

The ECO4 Flex scheme was viewed as needing much improvement as it was seen as a missed opportunity. Many local authorities lack the resources, experience and tools to focus on delivering these types of schemes, and need the guidance and support to aid them in delivering. This was seen as being particularly important as the Warm Homes Plan is moving the delivery to them, so suggestions were that they need to learn from those with the experience of delivering the past schemes, such as the energy suppliers and key local authorities.

It was also suggested that there should be better routes to generate leads than using lead generation companies. This could include local community networks, community advice agencies, and referrals through health and social care routes. These routes would assist in targeting those households in the most need that require additional support or care, who may not be reached through other routes.

There were also suggestions to better support tenants in private rented accommodation, as they are currently underserved and require additional support.

And finally, there also needs to be greater support when transitioning between home energy upgrade schemes. This is essential in supporting the industry in adapting and retaining the skilled workforce, but also to ensure there is no gap in provision for householders.

Improvements: Accountability and targets for delivery roles within the scheme
Flexible funding to allow harder-to-treat properties to be upgraded
Reduce administration or provide central administration support
Support collective approaches such as area-based schemes
Adopt a people-first approach such as one-stop shop and community networks
Support local authorities in taking the lead on delivering home energy upgrade schemes

5.2. The future

As we look towards the future of home energy upgrade schemes, we should clarify that the research partially took place after the announcement of ECO being abolished and that the Warm Homes Plan was due to replace it. However, full details of the Warm Homes Plan were not shared at this point. The announcement, however, made it clear that there would be a new delivery model that removed the obligation from the energy supplier to fund and deliver home energy upgrades, and local authorities would play a key delivery role.

There were some concerns raised about the transition between the two delivery models and the gap that would be left for both the industry and householders as the replacement scheme was designed and set up. Although ECO4 has been extended to December 2026, the reality is that most of the delivery on the scheme has already taken place, and much of the activity will be to address the remediation required to resolve the quality assurance failures, for these to count towards the numbers. This leaves a gap in provision for fuel-poor households and a drop in demand for the industry, which is now seeing countless redundancies.

5.2.1. Warm Homes Plan

The Warm Homes Plan was felt as offering a better blend of home energy upgrades and removing the emphasis on fabric-first was well received. However, the timing and lack of certainty about what was next raised a lot of questions about how the scheme was going to be designed and delivered.

There was positivity about the range of home energy upgrade options, but questions were raised about funding levels. Under ECO, funding was restricted which did not enable this range of options, although they could have been delivered, and not all eligible households could benefit as previously outlined. So, there was a need for clarity on whether there would be funding flexibility to support this.

Although supportive of heat pumps as an option, it was highlighted that low-income households may not be as open to the technology and questions were raised on whether it would effectively reduce their energy bills.

Much is yet to be understood about the roles that different organisations will play and how these will improve consumer protections and installation quality, as the key failings highlighted in various reports about ECO. This includes the new Warm Homes Agency alongside existing bodies such as TrustMark and MCS.

5.2.2. Key players

The Warm Homes Plan will see local authorities take a key role in delivering home energy upgrades. This was viewed as welcome news to have local delivery and focus. However, there were concerns about how many local authorities would cope with these additional duties alongside the increased responsibilities for Minimum Energy Efficiency Standards (MEES) for the private rented sector. It was also flagged that the devolution transition may disrupt some areas too. There were fears that this would impact the delivery and fair distribution of funding across the country, leading to a postcode lottery, where some local authorities lacked the resources and/or the experience to deliver schemes of this kind and in particular at this scale. The government may need to support local authorities with funding to enable them to build the capacity to deliver on the Warm Homes Plan.

> *[Become a postcode lottery as some local authorities have delivery expertise and others don't.] Energy supplier*

The Distribution Network Operators (DNOs) were also listed as key delivery partners, which is positive, as the Warm Homes Plan proposes an increase in the electrification of heat and more solar generation. So their role is critical in supporting local energy demand management and grid capacity. However, it was highlighted that they have not been previously involved in these schemes, so it would take time for them to get up to speed if they were to play a greater role.

The energy suppliers, however, will no longer play a key role going forward. It was suggested that their role should be maintained in some capacity so that their wealth of experience in delivering home energy upgrade schemes could be shared, including lessons learnt and best practice. They could also provide a valuable role in identifying households that are struggling, as they have in-depth energy bill data, but a method of sharing this data would need to be found.

6. Recommendations

ECO has delivered significant benefits but exposed fundamental flaws in design, delivery and accountability. The transition to the Warm Homes Plan represents a critical opportunity to

address these systemic issues. The recommendations outlined provide a practical framework to ensure future schemes are more effective, equitable and trusted.

Householder focused recommendations:

- **Put householders first.** There needs to be greater focus on putting the householders first and making them feel part of the retrofit process, and not having it done to them, just because they are not paying for it. This should include maintaining continuity of care throughout the process through caseworkers, intermediaries or one-stop shop approaches who can provide impartial advice and advocate for householders and improve customer care. They can also coordinate multiple delivery partners and ensure householders are communicated with and feel they can trust those visiting their home. There should also be a focus on the effectiveness of the home energy upgrades over the lowest cost to deliver them, as the householder outcomes could be much greater if this focus is altered. There should also be aftercare built in as standard to ensure that the benefits are realised from the upgrades and that householders are satisfied with the work.
  ACTION: Funding for one-stop shops or advocacy as well as aftercare services
- **Better engage households and develop better referral pathways to reach those most in need**. This could include greater linkages with the healthcare and social sectors to reach the most vulnerable and people impacted by cold and damp homes. Other methods of communication could include deploying community champions and community demonstrator properties to drive people-led engagement. It could also involve stacking services to build trust, such as integrating energy advice, referral services for support or the priority registers, or other services that could be delivered quickly and easily, enabling householders to see benefits more immediately.

  ACTION: Funding to develop sustainable and effective referral pathways and one-stop shops.
- **Improved support for the householders in the rented sector** is needed so that they can benefit from the schemes with the assurances that the landlords would not put up the rent as a result, or evict them once they have accessed the grants. This could be leveraged under the Renters Rights Act to give them more protections against rent increases and eviction. Support is needed to engage and educate landlords on the benefits of installing home energy upgrades and the duty of care they owe their tenants under the Minimum Energy Efficiency Standards regulations for rental properties. The government also needs to provide clear guidance on the support for enforcing the next round of MEES as a mechanism to help bring landlords on side.
  ACTION: National lead on tackling private rented homes including enforcement, communications and support.

Delivery support recommendations:

- **Local authorities should be supported through this transition** and benefit from the experience of energy companies, third-sector organisations and other experienced local authorities, so they can develop their capabilities more quickly. This would hopefully ensure a more equitable delivery across the country, as it would aid in developing the less experienced local authorities and support them in starting to deliver the Warm Homes Plan. It may be useful for inexperienced local authorities to partner or collaborate with more experienced local authorities or energy companies. They would also benefit from knowing that they are investing in a longer programme of activity, such as 10 years.

ACTION: Immediate action is needed to gain and share knowledge. Direction and revenue funding to local authorities to support them in developing capabilities to deliver in 2027.

- **Better utilise the experience and information that we have on home energy upgrade scheme delivery**. This includes supporting the transition from an energy supply funded model to local authorities by enabling the transfer of knowledge, systems and lessons learnt. We should also better utilise the data collected from previous schemes to know where effort should be targeted and integrate other government data to ease eligibility checking, such as income levels with HMRC as third-party validation tools. Data from energy companies on priority customers and those in high debt should be used, as well as the priority services register from DNOs. Energy suppliers may also be able to continue to deliver some of the activity going forward using their experience, data and systems.

  ACTION: Development of shared data resources, tools and knowledge

- **Level the playing field for SMEs and local installers** through supportive mechanisms and systems that allow more SMEs to get involved, and allow growth in local installers. Local and trusted installers can play an important role in the delivery of home energy upgrades and gain the trust of communities, as well as providing local jobs and reducing the need for national installers to travel to the area to complete work. Support could include providing processes and templates, and communication plans, as well as lead generation through national/regional campaigns to generate quality householder leads to reduce the burden on smaller installers who do not have the administrative teams of the larger players. It should also be recognised that local authority frameworks can also be a barrier for them, as they are too complex or prohibitive, and this should be addressed so that more local installers are not lost.
  ACTION: Development of installer focused systems and tools to reduce administrative burden and increase consistency.
- **Clearer and consistent communications and messaging around home energy upgrades and the scheme eligibility** to gain interest, and the messaging needs to rebuild trust. The language needs to be simplified and made easy for everyone to understand so that confidence can be built, not just for subsidised but also for able-to-pay home energy upgrades. There needs to be nationally led campaigns to combat misconceptions and overcome barriers to support local efforts, where activities can be built on the back of these campaigns to make them more locally focused. Messages need to be consistent across delivery partners to build trust and confidence. People also do not necessarily identify with the narratives of low-income and vulnerable definitions that are currently the focus of grant-funded scheme messages. Other approaches to messaging may be more successful, such as health as a driver or broader home repair as a gateway to home energy upgrades. Messages also need to be more people-focused and utilise case studies demonstrating impacts and use demonstration homes to showcase technologies like heat pumps.
  ACTION: Development of national messaging that utilises key feedback from organisations and studies such as those by the National Retrofit Hub and the MCS Foundation.

Scheme design recommendations:

- **Create a supportive and accountable environment for installers** to stimulate the much needed growth in green jobs, eg 10 years. A stable pipeline of work needs to be seen without the threat of disruption in order for the industry to gain faith in investing in jobs and training. This needs to be backed by clearly defined roles for industry bodies and quality assurance that follow through to remediation, so that there is no room for bad

actors and scammers to enter the market and further tarnish the retrofit industry. Preferably by separating out the funder, installer and auditing roles, as well as the regulation of certification of bodies. This should also include soft skills training for installers around supporting vulnerable households, respect and cultural sensitivities. Skills and employment provision should also be designed to ensure that retrofit jobs are accessible to people from the fuel-poor communities the scheme is designed to serve, by including social value clauses in procurement.

ACTION: Development of a scheme that will last for 10 years backed by clearly defined roles for quality assurance, remediation, complaints, and certification body regulation.

ACTION: Develop skills and training opportunities to support the green industry to grow.

- **Make home energy upgrade schemes as streamlined and simplified** as possible and enable inclusivity of all property types. Making it easy for all parties to understand and communicate the eligibility criteria, as well as administer the scheme, without too much bureaucracy that could increase management costs. This should include flexible funding that enables harder-to-treat and larger homes to receive support and not to continue to be left out, as the funding restrictions make them commercially unviable.
  ACTION: Clearly define and test any new eligibility criteria, checking on how burdensome the administration will be and the likelihood of fraud.
- **Ensuring retrofit programmes are fit for the future** by designing them with flexibility in mind to suit the property, householder and future occupants and environment. Current schemes are not always installing the gateway technologies needed to deliver flexibility, and there is no post-install advice to support households in selecting the most beneficial tariffs and getting the most out of the new technologies, which should be delivered as standard.
  ACTION: Develop schemes that allow flexibility in funding to ensure the right measures are selected for the long-term benefit of the property and householder. Also, allow funding to deliver post-install support as standard.
- **More flexible approaches to enable greater levels of innovation and unique approaches that fit the needs of the area**. This could involve focusing on property eligibility, not householders, as it is the properties that ultimately need upgrading. Areas identified as low-income could be targeted with a blanket campaign so that everyone could benefit, and it would make communication simpler, remove eligibility barriers and the stigma of receiving means-tested grants. This could run alongside national or regional campaigns that target other geographical areas that are eligibility-based, just as the CESP scheme did alongside CERT in 2008-2012.
  ACTION: Create flexible funding to allow flexibility in approaches such as area-based or property-led approaches.
- **Embed community organisations in delivery.** There is increasing evidence and support for area-based schemes and community-led approaches, as they can increase the uptake and conversion of home energy upgrade schemes. As ECO ends and the Warm Homes Plan is to be delivered by local authorities, this provides a great opportunity to develop area-based schemes that meet the needs of the local areas and can integrate with community networks. Community energy organisations are mentioned in the Warm Homes Plan as a mechanism of supporting the plan, but it does not state how this will be achieved. This should be developed with the community energy sector to ensure they have a key role in driving demand for retrofit, meaningfully engaging their communities and supporting them through the retrofit journey. There is a need for intermediary support and local presence, which community energy organisations are ideally placed to deliver and should be effectively funded to deliver.

ACTION: Engage community organisations in the development of future home energy upgrade schemes and the vital role they play in it.
ACTION: Provide funding that is accessible to community organisations to assist them in playing a more active role in delivering home energy upgrades effectively.

7. Scenarios

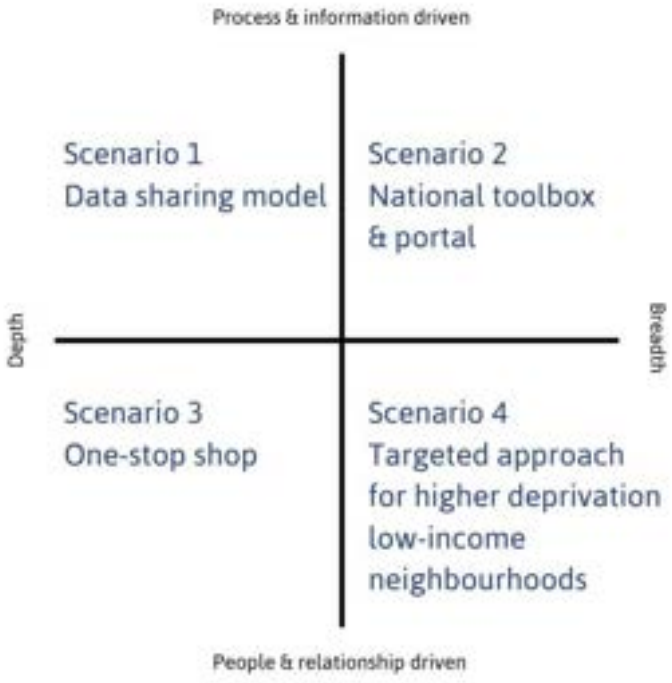
These scenarios have been created from the research to help bring to life how the recommendations could be implemented to address some of the barriers in making home energy upgrade schemes more accessible and more effective. These scenarios are intended to be conceptual framings that guide the design of future initiatives. There are some assumptions that some of the recommendations would already be in place to make these possible.

As part of these scenarios, we should highlight that they are all designed to follow the four pillars below to ensure that they work for the whole ecosystem and are future-fit:

- Works for households – accessible, meaningful outcomes and good customer experience, promoting co-benefits
- Works for professionals – cost-effective, reasonable to manage, clear processes, aligns with values
- Works for society - inclusive, equitable, legal, aligned with policy, strengthening local economies, leveraging existing infrastructure
- Works for the planet – supports net zero ambitions, energy independence, managing ecological impact, minimising air pollution

We recognise that some of these suggested scenarios naturally build on existing practices. Some are transitional, whereas others are transformational, enabling the sector to develop and accommodate new ideas whilst improving existing delivery methods.

The four axes are underpinned by several descriptors:



Scenario 1 – Data sharing model

Programme/s of national or localised scale with data gathering from households, installers, local authorities, retrofit professionals and funders. Data can be used by households, installers, local authorities, retrofit professionals and funders. The data being collected is anything that will support and improve home energy upgrade schemes, the design and delivery of measures, the use and experience of the householder, and channel funding more effectively. The core aim of the scheme is to generate, capture and make available the data to improve delivery. There will be a second strand of work making use of the insights generated to demonstrate excellent practices that increase economic, environmental and social benefits.

Goal To provide open sources of data and information to support the delivery of home energy upgrades by generating, capturing and making available data that can empower delivery.

Offer An inclusive knowledge base and membership scheme providing access to crowdsourced and programme generated data as well as valuable insights. Where householders are involved, enhanced levels of support are given to ensure ethical participation.

Eligibility Open to all contributors with access restrictions as necessary.

Delivery This could be delivered by different types of groups, whether led by a governing authority, industry body or self-determined group as suited to funding. Lived experience is valued and respected which helps with higher quality insight such as detailed customer profiles and embedding higher levels of equity.

Timeframe As appropriate to the programme, but it should be considered that once aims and objectives have been met if legacy access to data, systems and community of practice has value.

Consumer protection If householders are involved, there needs to be a duty of care, including extremely high levels of data protection and research ethics. Participants should have access to standard national protection schemes and redress, installer warranty and guarantees. Participants should also have access to enhanced support and protection at a programme level, such as a single point of contact during and post scheme, as well as free independent advice. Programme accreditation ensures that all programmes, even small ones run by self-determined groups follow mandatory principles.

Aftercare If householders are involved there needs to be a duty of care and higher level of aftercare to ensure that they fully benefit from the programme. Enhanced aftercare can be a benefit to participation.

Funding Funding for the programme set up and infrastructure could come from a wide variety of sources including from being part of a wider funded scheme. Special funding should be available for extensive initiatives that will generate deep insights and share learnings widely. Blended funding can be accessed for relevant interventions, plus research and innovation funding can be sought.

Education, training & employment Offers a programme of training open to all. Some users may need specific training or accreditation before they can access particular parts of the system. The programme is especially valuable in upskilling the sector.

Value-added Inclusive to all so everyone can benefit from the shared knowledge. The value-add is driving increased knowledge for the sector and improved outcomes for society. The greater level of insights will help accelerate progress towards net zero targets and other relevant targets.

Case study example – Living Lab https://www.livinglab.energy/

The Living Lab is an independent, not-for-profit organisation run by Energy Systems Catapult to bring together householders, researchers, energy companies and the government to accelerate the transition to cleaner energy. The Living Lab trials new energy products, services and policies to see how they work in practice in real homes for real people.

The Living Lab also studies how homes use energy and heating, and how the demands are changing as a result of the adoption of green technologies such as solar panels, electric vehicles and electric heating. Householders volunteer to join the panel of participants in their trials. The Living Lab aims to make it simple for everyone to live in warm, carbon-free homes.

Case study – Digital Building Logbook - https://nationalretrofithub.org.uk/wp-content/uploads/2024/05/NRH-Logbooks-Explainer-2.pdf

This is still at the proposal stage, but it is a good example of a data sharing project. The Digital Building Logbook would be a secure, online tool to bring together all the building's information in a single place. It would connect a wide range of data sources, organisations and stakeholders with up-to-date information and data.

The Digital Building Logbook could bring together basic property information, local data, in-use performance data, enhanced property data, occupancy and behaviour data, and building renovation plans. This would make it easier for the householder and contractors to manage, support and improve properties.

Scenario 2 - National toolbox & portal

A toolbox and portal that is available to everyone, but some elements may be restricted to local authorities, community groups and installers if needed. It would include communications, promotional items, advertising, information and advice leaflets. It would also make available standardised processes, template documents, data sets and access to some centralised infrastructure. Would also signpost to additional resources, support, funding, information, and training.

Goal To provide a single source of consistent information for everyone on home energy upgrades that supports greater uptake and delivery.

Offer A set of resources to create a central backbone that provides consistent guidance around core messaging and language, processes and compliance, upskilling and training.

Eligibility Generally open access with some elements restricted as necessary.

Delivery Nationally driven and promoted. Delivered by national government or a national organisation in partnership with key stakeholders eg NIA, MCS, FMB, RIBA, TrustMark, Warm Homes Agency, regional Net Zero Hubs.

Timeframe Ongoing

Consumer protection Signposting to national protection schemes, installer warranty and guarantees, as well as guidance on complaints and redress. Potentially endorse or provide a nationally available best practice consumer protection framework/scheme including redress. Alternatively, provide accreditation for this framework/scheme.

Aftercare Tools, signposting and resources for aftercare that anyone can access easily. Potentially linked to a helpline to support and navigate householders through any aftercare issues.

Funding National government funding plus industry levies.

Education, training & employment Publicly available materials for educational establishments which could be targeted to those audiences. Includes CPD and introductory courses. Support periodic awareness and knowledge campaigns when issues arise.

Value-added Levelling the playing field for smaller installers. Can be part of creating a strong shared identity for the sector. Freely available resources to support householders and community groups with minimal copyright restrictions.

Case study example - RISE (Retrofit Information Support and Expertise) - https://www.riseretrofit.org.uk/knowledge-hub/

This is a service designed for social housing providers and local authorities to help them plan and deliver retrofit programmes. They also provide resources for those using the schemes alongside them, which include suppliers, distributors and installers.

The Knowledge Hub is a multimedia library of expert-led practical guidance, which includes articles, guides, videos and podcasts, and this includes best practices and lessons learned from other projects. The Hub provides materials to assist with each stage of a retrofit project from early-stage preparation to delivery and beyond.

Scenario 3 - One-stop shop

National programme of flexible funding to enable local and combined authorities to deliver their own home energy upgrade schemes, that provides support which is targeted and subsidised for fuel-poor households, and affordable for everyone else. There is an expectation that local and combined authorities work in partnership with others to deliver the best outcomes for households and deliver a multi-layered approach, such as including health. This would include partnering with organisations such as voluntary and community sector organisations and health and social care practitioners for referrals. Will take responsibility for raising awareness, generating interest in home energy upgrades and supporting behaviour change.

Goal To provide a single place to support householders through the home energy upgrade journey, giving them the level of support they need and reducing the number dropping out.

Offer Local support able to meet the needs of a range of households with subsidised support for fuel-poor households, and provides referrals and multi-disciplinary interventions for holistic outcomes. Access to energy advice casework to navigate the process.

Eligibility Eligibility is aligned with capturing all fuel-poor households. Fuel poverty definition for these schemes should include all households in energy precarity.

Delivery One-stop shop end-to-end service either self-delivered by local and combined authorities or commissioned from third-parties. Due to the multi-disciplinary approach this will include established and trusted voluntary and community organisations, as well as engaging highly skilled, proactive and conscientious supply chain.

Timeframe At least a year for set up, and then two to five years for subsequent delivery periods. The time-boxed delivery periods allow the scheme to not stagnate and encourage continuous improvement, redesign and innovation.

Consumer protection National protection schemes, installer warranty and guarantees. Single point of contact during and post scheme.

Aftercare Aftercare will be incorporated into the one-stop shop as providing support or signposting to it. Subsidised for fuel-poor and vulnerable households, and affordable for everyone else. Providing they are covered by the one-stop-shop's catchment, aftercare should be available to anyone who needs it at any time, not only in connection to services they have received directly from the one-stop-shop.

Funding Layered and blended approach to funding which builds the service and adds services. Funding from national and local government, health funding, funding for holistic advice including welfare, etc.

Education, training & employment Should be incorporated as an embedded thread into the service delivery so opportunities are available to interested parties at various touchpoints. This includes throughout the supply chain, which is supported through procurement and tendering.

Value-added Building up local intelligence for use in advocacy and policy. Providing a platform for real-life research in the field. Contributes to tackling adjacent issues such as health and social issues that are exacerbated by home conditions.

Case study example – Changeworks - https://www.changeworks.org.uk/

They offer a Green Energy Helpline that provides energy advice to households on saving energy, smart meters, energy tariffs, managing heating and electric vehicles. They provide free, impartial advice to householders across Scotland. The Helpline can support households in starting their sustainability journey, create a tailored home energy efficiency plan and signpost to funding and grants.

Changeworks aims to deliver affordably warm, healthy and energy-efficient homes and support households in fuel poverty through energy advice, retrofit management, developing retrofit solutions and independent consultancy services.

Case study example – Retrofit West - https://homeowners.retrofitwest.co.uk/

They offer an independent advice service that is designed to help guide householders through home upgrades, which include planning, designing and delivering home improvements as well as finding trusted contractors. This advice service is a not-for-profit covering Bristol, Bath and North East Somerset and South Gloucestershire, and is funded by The West of England Mayoral Combined Authority.

They provide a Homeowner Hub that can help evaluate your home's current energy efficiency, and an advice service that offers personalised advice calls and home visits. They can help you to assess your home and get a plan for improvements, as well as find a contractor. They also offer an advisor service for landlords to help improve rental properties and reach EPC C.

Scenario 4 - Targeted approach for higher deprivation low-income neighbourhoods

Designed as a scheme that could be rolled out nationally but would target areas of the country that are classified as high deprivation and low-income. Given that the areas would be so focused, all households in the areas would be eligible for subsidised home energy upgrades, where suitable for the property. This is a similar model to the CESP scheme and to some extent WHLG, but with the added benefit of mandating working with locally embedded partners in the community to increase awareness and engagement with the scheme and also provide long-term support.

Goal To provide a targeted approach that would be more inclusive, be more cost-effective and increase community buy-in to support trust and engagement, leading to higher levels of participation.

Offer Package of home energy upgrade solutions suitable for most properties in the area

Eligibility Living in the defined area

Delivery National scheme delivered by local and combined authorities in partnership with the local supply chain and community groups.

Timeframe 5-10 year programme moving at the pace of the community, and could be integrated with other schemes such as regeneration programmes.

Consumer protection National protection schemes, installer warranty and guarantees, plus community organisations and neighbourhood support for vulnerable households. Single point of contact during and post scheme. Community partner (eg community centre) to provide legacy support and advice to the community.

Aftercare Formal aftercare from the local authority and installers. Community infrastructure evolves to meet the new needs of the community. Informal support through the embedded community knowledge and experience from neighbours and family.

Funding Blended funding from central and local government, philanthropic funding, and volunteering.

Education, training & employment Built into the scheme through social value clauses to offer these opportunities including for primary and secondary education, colleges, school leavers and university graduates, especially from the local area. People grow up with the scheme, learn from the scheme, work on the scheme, then can end up leading the scheme.

Value-added Supporting neighbourhood regeneration and cohesion. Can integrate with public health programmes in partnership with Integrated Care Boards and Primary Care Networks.

Case study example – Brockmoor Net Zero Neighbourhood -
https://www.equans.co.uk/case-studies/net-zero-neighbourhood-brockmoor-dudley

Brookmoor Net Zero Neighbourhood (NZN) is a pioneering, place-based approach to delivering carbon savings across housing, transport, energy and green spaces. The project is delivered in partnership between West Midlands Combined Authority (WMCA), Equans and the community in Brookmoor. The area was selected due to high levels of fuel poverty, low employment and mixed housing tenure.

The project takes a holistic approach to decarbonisation, which is grounded with community co-design. It includes retrofitting homes with measures suitable to the property, green space regeneration, transport and infrastructure. They have blended a range of finance to enable delivery at scale.

Case study example – Better Homes Leeds

Better Homes Leeds was a targeted programme that retrofitted 180 homes in Holbeck between 2016-2018 in stage one, and retrofitted a further 150 homes in the second stage with a 90% uptake. The neighbourhood-scale retrofit approach targeted homes of all tenures and delivered deep community engagement.

The scheme offered householders tailored retrofit plans and a one-stop shop for advice. They blended funding and finance to deliver retrofit support across the area to provide subsidised home energy upgrades that were free for many households, whilst others contributed up to 25%, depending on their income. Landlords also contributed 25% of the costs.

Glossary

Area-based An approach that targets geographically defined neighbourhoods or communities, rather than targeting individual households.

BEIS Department for Business, Energy & Industrial Strategy

BUS Boiler Upgrade Scheme is a heating grant scheme for installing heat pumps and biomass boilers

CERO Carbon Emission Reduction Obligation part of ECO

CERT Carbon Emission Reduction Target is a former home energy upgrade scheme

CSCO Carbon Saving Community Obligation was one part of the ECO scheme

CESP Community Energy Savings Programme is a former home energy upgrade scheme

Community-led An approach where the community/neighbourhood is collaboratively involved and the approach is locally owned

CPD Continuing Professional Development is a term used to describe learning and development activities that professionals engage in to develop and enhance their skills.

DESNZ Department for Energy Security and Net Zero

DNO Distribution Network Operators

ECO4 Flex Energy Company Obligation scheme that is discretionary for local authorities

ECO Help-to-Heat Targeted heating element of the ECO3 scheme

ECO Energy Company Obligation, ECO4 is the current home energy upgrade scheme

EEC Energy Efficiency Commitment is a former home energy upgrade scheme

EESoP Energy Efficiency Standards of Performance is a former home energy upgrade scheme

EPC Energy Performance Certificate is an energy performance rating for domestic properties

FMB Federation of Master Builders is trade association for the construction industry supporting sole traders to medium-sized companies.

Fuel-poor Defined by National Energy Action (NEA) as a household that needs to spend more than 10% of its income on energy to provide a satisfactory heating regime

GBIS Great British Insulation Scheme is an home energy upgrade scheme delivered through the energy companies to targeted properties

Hard-to-heat Homes that have poor insulation, outdated heating systems, or structural issues that make them uncomfortable and costly to live in

Hard-to-treat properties Properties that are difficult to make energy efficient through more conventional home energy upgrade improvements

HHCRO Home Heating Cost Reduction Obligation was one part of the ECO scheme

HMRC His Majesty's Revenue and Customs

HUG Home Upgrade Grant was an home energy upgrade scheme targeted at low-income and EPC D-G properties by local authorities who had successfully applied for the funding

IAA Installation Assurance Authority is one of the industry bodies that provides an assurance framework under a single compliance platform

LAD Local Authority Delivery is an home energy upgrade scheme that forms part of the Green Homes Grant, which was delivered by local authorities who successfully applied for the funding

Local Net Zero Hubs The Local Net Zero Hubs is a government programme in England to help local authorities and communities to create net zero projects and attract commercial investment.

Low-income households People living in households with income below 60% of the median income in the base year

LSOAs Lower Layer Super Output Areas are geographically areas that are formed of 400-1,200 households and populations between 1,000-3,000

MCS Microgeneration Certification Scheme is a mark of quality assurance in the renewable energy sector

MEES Minimum Energy Efficiency Standards is the guidance on the minimum energy efficiency standards for landlords of private rented properties

NIA National Insulation Association is a forum for insulation installers that promotes a more energy-efficient built environment and raising standards.

Ofgem Office of Gas and Electricity Markets

One-stop shop An organisation that aims to provide householders with all the assistance they need to retrofit their homes in one place

PAS 2035 and 2030 These are standards to guide professionals in the retrofit industry. PAS 2035 sets the foundation, including strategy, assessment, risk management and design. PAS 2030 ensures that the plan created under PAS 2035 is delivered to a high standard.

Priority groups Individuals who are aged over 70 or in receipt of means-tested benefits or disability related benefits

RIBA Royal Institute of British Architects is a professional body and charity that promotes best practice, excellence and ethics in architecture.

SMEs Small to medium sized enterprises

SWIGA Solid Wall Insulation Guarantee Agency provides a warranty scheme to give homeowners peace of mind when installing solid wall insulation

TrustMark Government endorsed quality scheme that covers work a consumer chooses to have carried out in or around their home

Vulnerable households Households that receive at least one means-tested benefit, people with cardiovascular, respiratory or mental health conditions, disabled, elderly, households with young children or pregnant women

Warm Front A former government programme in England that supported vulnerable households in installing energy efficiency improvements such as heating and loft insulation.

Warm Homes Agency A new agency proposed to improve oversight and ensure quality control as part of the Warm Homes Plan.

Warm Homes Plan The government's plan that sets out how to support households in the UK to reduce energy bills and tackle fuel poverty

WHLG Warm Home Local Grant is a grant administered by local authorities in England that provide home energy upgrades to properties with EPC rating D-G that are low-income households or in receipt of certain benefits or in particular postcodes

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