Warmer Homes: How can Grant Subsidy Schemes Improve Engagement with Participants?

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1. Introduction:

1.1: Summary

The Department for Energy Security and Net Zero has reported that 17.0% of all carbon dioxide emissions in the UK come from the residential sector (DESNZ 2023). In the same report natural gas used for cooking and heating is named as the main contributor to these emissions. Thus, robust, and urgent investment into UK homes is essential to improve energy efficiency and support ongoing plans to reach net-zero emissions. The combination of fuel poverty, rising costs of living and the housing crisis in the current economic context makes many households unable to fund the urgent transition to more energy efficient homes.

Greater London Authority's (GLA) Warmer Homes is a grant programme that funds and installs measures designed to improve energy efficiency and contribute to the de-carbonisation of London's private housing sector. The programme is means tested and targets people who would be unable to afford such improvements themselves. Measures range from draft excluders and thermostats to external wall insulation, new boilers, and solar panels. The programme largely makes use of central government funding designed to address fuel poverty. Funding has predominately come from the central government through the Local Authority Delivery scheme (2020) and more recently through the Home Upgrade Grant (2021). These programmes devolve delivery to local and regional levels and are subject to phased releases of funding, competitive bids, and changing eligibility requirements.

The project builds on the primary investigator's experience with the programme in prior research as well as engagement with the GLA and other stakeholders. Reflecting this experience we focused on the importance of better public engagement to improve the outcomes of retrofit programmes. Working closely with the GLA we have focused our research on engagement with the public and the role that communication plays in the quality of programme delivery. This report presents results from six months of evaluative research on the delivery of Warmer Homes. The researchers visited the homes of eight residents who engaged with Warmer Homes, conducted four interviews with stakeholders and programme providers and organised two workshops with policy stakeholders. The data collected was analysed with the view of producing a series of insights and recommendations that could benefit policymakers at local, central, and regional levels.

Government efforts to deliver the de-carbonisation of domestic energy have been delivered over a range of time frames and geographies. This report focuses on a grant-based programme which drew funding from the Local Authority Delivery scheme (LAD) and the Home Upgrade Grant (HUG). These policy mechanisms are both funded centrally but administered at a range of different regional and local schemes, in the case of the GLA Warmer Homes programme the project is delivered by a single greater urban mayoral authority. In this case some of the challenges in delivery can be attributed to the challenge of delivering a scheme in a specific area whilst also meeting the requirements set out in a national level policy. The challenges that the Warmer Homes programme has faced reflect the need identified by the British Academy to develop a place-sensitive policy making approach which are sensitive to the impact of scale and time on the delivery of sustainability interventions (British Academy 2023).

The issues identified in this report are not unique to London, and our report makes clear that these are near universal issues in the task of de-carbonising homes. Any policy designed to further this effort will have to consider the specificities of place, moment, and local community. It must also reflect on the potential impact that its delivery will have on the success or failure of similar schemes in the future.

This research project presents some of the significant challenges involved in delivering energy de-carbonisation in the home. The evidence collected, analysed and discussed with key stakeholders makes clear that the mechanisms for engaging and communicating with programme participants is crucial not only to the successful delivery of a specific funding scheme but also to making positive long-term impacts on public attitudes towards the home retrofitting policies that will need to be scaled up for the UK to meet its current net-zero targets. The challenge of delivering policies at a national level which deliver not only at the scale of regions and local authorities, but also at the micro-scale of the individual grant recipient household is immensely complex. This complexity creates a significant challenge for maintaining a positive experience for recipients. This positive experience is essential not only for these households but for the future of similar de-carbonisation policies because of the potential impact on trustworthiness and reputation for similar programmes in the future.

Any shortcomings of schemes such as the GLA's Warmer Homes programme must be addressed through national and regional policy as well as through renewed approaches to delivery . In order for organisations such as the GLA to deliver within the time frames and scales specified by central government they must work with a range of delivery providers. This presents a significant challenge in terms of public engagement and the experience of grant recipients. The process that takes the GLA from first contact with a potential grant recipient to the completion of works is immensely complex. This report examines the experience of participants and stakeholders in order to make recommendations for the improvement of delivery with a focus on the experience of grant recipients.

Our findings have led us to outline the following priorities for future policy in this area:

1. **Managing Contact:** The programme lacked a strategy for managing the relationship between the grant-provider and recipients. The participants lacked a single point of contact or advocate.

2. **Wayfinding:** The programme is complicated with a lot of moving parts. Systems need to be developed to ensure participants understand the process, and their progress through it.

3. **Inform and Educate:** Participants did not feel that they were able to access information, and when they did receive information, it was not always useful. This resulted in a feeling of disempowerment, and it put additional pressure on decision making.

4. **Communicating Cost and Value:** Participants had a heightened awareness and unease about cost, and stakeholders were limited by funding streams at various stages of programme delivery.

5. **Preventing Disappointment:** The complexity of the programme meant that participants regularly experienced disappointment when things they expected did not materialise. This had a negative impact on trust and reputation for the programme.

6. **Feedback and Monitoring**: Participants felt unable to offer feedback during or after the programme. A system of feedback and monitoring is necessary to improve the participant journey and the programme as a whole.

7. **Make the most of community networks:** Many of our participants learned about the programme through community networks. Communication and trust could be improved by tapping into these through outreach programmes and working with existing organisations.

8. **Make positive experience a policy deliverable:** Grant recipients sometimes felt that they were having something 'done to' rather than 'done for' them. Policy delivery should measure success by outcomes for each individual household engaged as well as the utilisation of funds and number of measures installed.

1.2 An introduction to the Warmer Homes Programme

The Warmer Homes Programme was first introduced by the Mayor of London as part of the Fuel Poverty Action plan published in June 2018. Initially funded directly by the mayoral authority, as part of the funding approved in response to the draft Fuel Poverty Action Plan via Mayoral Decision 2197 (2017). The programme targeted energy efficiency improvements primarily framed as a response to fuel poverty but also supporting the wider sustainability goals of the London Energy Strategy (2018). The mayoral decision (2017) sets out the urgent need to take action against unacceptable levels of fuel poverty "with more than 335,000 households affected, leading to poor thermal comfort, substantial health inequalities and, in some cases, death" (2017 n.p.). Grants in this initial phase were limited to £4000 and were to be delivered by a co-operative of small contractors with the requisite accreditations. Households were eligible if they were in receipt of Benefits and located within the Greater London Area. A house by house approach was deemed necessary to provide choice for residents and to meet the needs of a housing stock where "every home is unique" (2017 n.p.). Notably the challenges of accommodating the diversity of properties, households, in the context of a relative shortage of skilled providers remain today.

Future phases of the programme have drawn upon funding from central government. Most significantly from the Local Authority Delivery (LAD) programme, introduced in 2020 and the Home Upgrades Grand (HUG) introduced in 2021 both administered by BEIS, and now DESNZ. These funding streams were allocated to local authorities via a competition process. Through a number of phases the Warmer Homes programme has drawn on both central government funding and funds from the Mayoral authority itself. In its most recent iteration the programme made grants between £5,000 and £25,000 to private sector means tested households drawing on LAD, HUG, and GLA core funding. In the latest round the GLA-led consortium bid secured £12,006,000 of HUG funding to be delivered between September 2023 and March 2025. HUG funding is limited to off-gas grid homes and nationally the latest phase has made £630 million available to local authorities (DESNZ 2024).

In the most recent iteration of the programme the eligibility requirements are listed as follows:
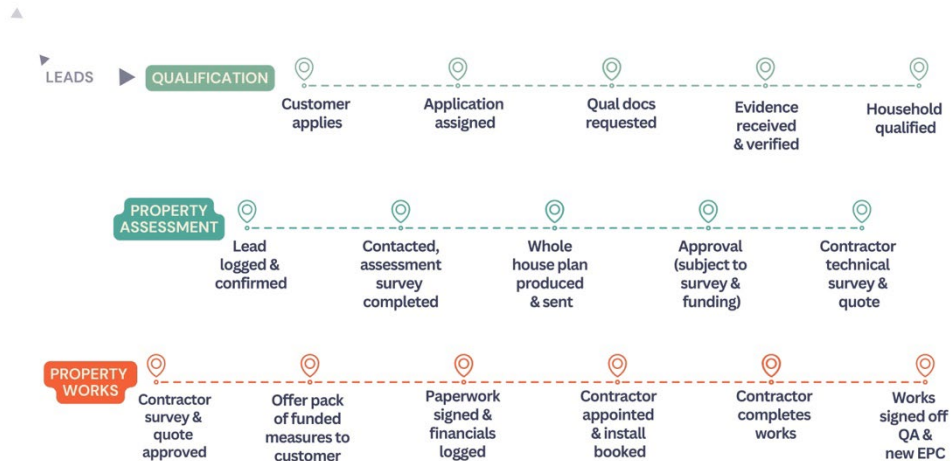
- Live in Greater London
- Own or rent your own home, landlords can apply as long as the tenant is eligible
- Are in receipt of a means-tested benefit OR have a low household income (less than £20,000 a year after rent/mortgage and council tax deductions)
- Have a property EPC rating of D, E, F and G*

(London.gov.uk n.d.)

Our research participants who had attempted to access previous rounds of funding found that tweaks to eligibility requirements meant that they needed to go through new eligibility assessments. Because the Warmer Homes Programme has in the past brought together different sources of central government funding there have been hidden complexities, HUG funding is only for off-gas homes with EPC ratings F-G. The 2021 census counted 24% of inner London homes without a gas supply to their homes (Stewart & Bolton 2024). This hidden complexity made application processes more difficult for both the GLA and their delivery partners and the grant recipients.

To understand the programme, we used the customer journey model provided to us by the GLA. This was used as a reference throughout the research:

MAPPING THE WARMER HOMES RESIDENT JOURNEY

LEADS ▶ **QUALIFICATION**
- Customer applies
- Application assigned
- Qual docs requested
- Evidence received & verified
- Household qualified

PROPERTY ASSESSMENT
- Lead logged & confirmed
- Contacted, assessment survey completed
- Whole house plan produced & sent
- Approval (subject to survey & funding)
- Contractor technical survey & quote

PROPERTY WORKS
- Contractor survey & quote approved
- Offer pack of funded measures to customer
- Paperwork signed & financials logged
- Contractor appointed & install booked
- Contractor completes works
- Works signed off QA & new EPC

The programme can be split into three phases, qualification: during which eligibility of households is confirmed, property assessment: whereby the building is assessed and potential measures are identified, property works: where the contractor agrees proposed works with the resident and the works take place. This 'journey' is an ideal version of the process and the participants we spoke to rarely had this exact experience. Furthermore the challenges of managing the funding within a tight timeline and a relative shortage of skilled contractors meant that sometimes there were long gaps in the process from a resident's perspective. Whilst this model was derived from a document shared with us by the GLA it was rarely referenced by stakeholders and most of our discussions concerned points of divergence from it. Participants in particular did not have a holistic sense of the timelines and processes involved in completing installation. Instead stakeholders and residents would develop their own expectations about ideal process which rarely mapped onto one another.

The Warmer Homes Programme has been delivered by a number of different organisations working in concert with the GLA. We have anonymised these organisations for two reasons. First because our participants often engaged with multiple organisations and contractors and had been involved in more than one of the programme's phases. The other important reason is that we do not feel that our data allows us to make a robust assessment of specific organisations or individuals, particularly as our recruitment process focussed on participants who had sought the most support from advocacy organisations. In general, there are several

different kinds of organisation or worker referred to in this document, which we collectively refer to as stakeholders.

- The GLA

- The main contractor – the body responsible for co-ordinating the programme.

- Service Provider – a business contracted to manage customer service delivery.

- Installers – businesses specialising in retrofit contracted by the main contractor.

- Advocates – organisations, largely charitable, responsible for engaging the public and supporting them to make applications to the programme.

1.3 Domestic retrofit:

The adaptation of homes to improve energy efficiency is a vital tool in meeting net zero targets and reducing fuel poverty. As stated above 17% of UK carbon emissions can be attributed to the domestic energy usage (DESNZ 2023a). In England 13.4% of all households are categorised as in fuel poverty (DESNZ 2023b). In the wider context of the UK housing crisis, and the global climate crisis these issues must urgently be addressed. Retrofit refers to the installation of technologies, and the adaptation of homes designed to promote energy efficiency or de-carbonise energy. The range of measures that might typically be considered in a retrofit include loft or external wall insulation, boiler replacement, window replacement, and solar panels.

Much of the published research on domestic retrofit is in the fields of engineering and architecture and has engaged deeply with the socio-technical aspects of energy adaptation. Fylan & Glew (2022), for instance, have made a useful assessment of the regulatory standards for installation such as PAS 2035. Dowson *et al.* (2012) assessed the technical and policy requirements for retrofit, focussing on fabric efficiency, skills shortages, and lack of incentive for property owners. Alabid *et al.* (2022) have emphasised the complexity of achieving retrofit in the UK and a shortage of clear strategy and guidance. However, there is little research on the evaluation of specific retrofit programmes, assessing engagement with the public, or on the role that communication plays in the quality of programme delivery.

Recently there has been a wider recognition of the need to understand individual experiences of home retrofit and energy adaptation. Work by the UK Green Building Council has highlighted the need to 'motivate' people to undertake retrofit, focusing on improvements to messaging and education on the topic (UKGBC, 2021). In a report for the IPPR, Emden (2023) has emphasised the 'relational' nature of retrofit drawing a particular focus on the role of social relations in the experience of householders undergoing retrofit. This report draws on research carried out by Bolton *et al*. (2022) to highlight the need for policy to engage with the relational nature of decision-making to better engage the public with retrofit (see also Bookbinder, 2023). De Wilde and Spaargaren (2018) have proposed approaches to the customer journey that attempt to build trust through creating intermediaries that can balance the interests of supply side with the experience of the public. Putnam and Brown (2021) have provided examples of grassroots and community led retrofit programmes, which they argue could be extended through better provision of government funding.

Our research offers a set of pragmatic and evaluative responses to a specific delivery programme for retrofit. In taking a socially and culturally informed approach to this topic we have been able to identify some concrete and cost-effective routes to improve the return on investment for central government funding in this area. Namely that public engagement should be at the heart of policy design at national and regional levels and that this should filter through to the minutiae of service design and the experience of programme participants. There is a consensus in the sector that Improvements to the supply chain and skills provision must be urgently addressed; this urgency also applies to the development of a consumer market in the technologies that enable de-carbonisation and energy efficiency. However our research demonstrates that public engagement ought to be placed at the same level of priority for policy makers and commercial stakeholders in grant-based retrofit.

1.4 Fuel Poverty

In the 2000 Warm Homes and Energy Conservation Act, the definition of fuel poverty was formalised in legislation for the first time. This legislation, which applied in England and Wales, describes fuel poverty in terms of the relationship between household income and energy cost for a given household. In the subsequent government *Fuel Poverty Strategy* this was defined as a household which must "spend more than 10% of its income on all fuel use

and to heat its home to an adequate standard of warmth" (DTI 2001). This definition remains in use in Wales and Northern Ireland. In Scotland, a similar model is used but it takes into account a standard definition of necessary energy usage. But since 2021 England has adopted a markedly different approach to defining fuel poverty.

Fuel poverty in England is now defined by the verification of two conditions in a household: an income below the poverty line after accounting for fuel costs and an EPC rating below C. This means that fuel poverty includes those who can benefit from energy efficiency improvements in their homes. The government's *Sustainable Warmth* strategy published in 2021 explains it this way:

> *Whilst we recognise that there are households living in energy efficiency Band A, B or C homes who are unable to afford sufficient energy to keep warm, due to a very low income, most will not significantly benefit from energy efficiency measures.*

In England therefore fuel poverty is uniquely contingent on the built fabric of homes. It means that alleviating fuel poverty is no longer done primarily through tackling structural poverty and energy prices but, as in the quotation above, by insulating homes.

In this context the refurbishment of homes become central to this area of social policy. This unusual definition of fuel poverty diminishes the tension between policies which seek to de-carbonise heat and reduce fuel poverty. However, the definition introduces the possibility that fabric-first interventions could mask the wider structural impact of fuel poverty. This decision to re-define fuel poverty in England seems to support the warning made by Sheriff et al. that, '[t]here is a risk that a focus on climate change and decarbonisation could come at the expense of action on fuel poverty' (2022: 129). The fulfilment of policy targets and the successful exhaustion of funds assigned to a given purpose must not be mistaken for the elimination of social and environmental problems relating to housing. Our research seeks to position the social dimensions of retrofit at the heart of all levels of policy and delivery design. This is not simply a matter of justice, we also demonstrate that by attending to the needs and experiences of the public as they undergo adaptations to their home will reap wider benefits. Namely: that taxpayers will receive better value for money and that the positive impact on trust and knowledge will lay the groundwork for the longer term roll out of home energy de-carbonisation and fuel poverty alleviation.

1.5 Environment, Subsidy, & Welfare

The Warmer Homes programme, as with all LAD or HUG funded programmes, directs grants directly to contractors and is not managed by householders themselves. As a grant which uses means testing as part of its eligibility standard, the grant might be usefully compared to social welfare provision. Our research has found that the experience of being a 'recipient' of the benefits of the programme is not straightforward. Because home upgrades were made at no cost to individuals residents could feel disempowered, or felt that they were treated as ungrateful if they raised concerns or complaints. This created additional complexity for programme participants, contractors, and installers; the relationship between contractors and participants did not follow familiar customer relationships. There was an ambiguity between the way that contractors, residents, and the programme itself viewed participants as either 'customers' or 'beneficiaries'.

The design of the government funding administered via the Warmer Homes Programme, namely Local Authority Delivery grants and Home Upgrade Grants, are set up with the twin aims of alleviating fuel poverty and de-carbonising energy. However, the delivery of these schemes reveal tension between addressing individual needs and collective need. The Warmer Homes Programme approach would sit firmly within the 'Liberal regime' described by Esping-Anderson (1990) as strict eligibility requirements are used to allocate the funding to those perceived as being *in need*. On the other hand, the benefit of this intervention is not only for the recipient, as the de-carbonisation of domestic energy should be seen as a universal good.

In the context of the neo-liberalisation of the British welfare state researchers have highlighted the rise of 'conditionality' (Dwyer, 1998) and the individualisation of risk (Hamilton, 2014). This refers to approaches to welfare design which incorporate punitive measures to not only shift behaviour, but to hold individuals responsible for what might have previously been seen as structural issues. Whilst the notion of 'punitive' policy does not apply in the context of retrofit, the relationship between the scale of national policy, individual households, and collective outcomes does. It is important therefore to understand ,the context within which this intervention from the state is received in the home. Furthermore, many of our participants, because of the groups prioritised by the policy, have had other engagements social policy through welfare and benefits and may consequently have a tense relationship

with state intervention. The wider context of conditionality means that beneficiaries of the state can feel disempowered. There is a prevailing narrative that welfare recipients should feel grateful to 'the taxpayer' but de-carbonisation policies also produce a wider benefit for the public. Programme participants are cast as both a passive recipient of a benevolent state and an active participant in a collective effort to de-carbonise.

1.6 People, Places, and networks

The Warmer Homes Programme has, to date, adopted a means-tested approach to allocating funding. In this sense the policy appears to address individuals . However another way of viewing domestic energy adaptation is as a regeneration policy, or area-based intervention. Approaches to urban regeneration have become increasingly place-based (Tallon, 2010) in contrast to the increased 'conditionality' (Dwyer 1998) and individualisation of social benefits. Instead of designing universal interventions to improve individual living conditions, successive British governments have targeted specific areas. On one hand, this is reflected in the fact that Local Area Delivery and Home Upgrade Grant funding were allocated to specific local governmental authorities as the result of a bidding competition. But the actual design of the funding eligibility requirements demands a household-centred approach.

Baranova (2023) zeroes in on the spatial dynamic of net-zero policy when she writes that the 'socio-economic transformation required to achieve net zero emissions by 2050 will be worldwide in scale yet localised in execution'. Baranova argues for 'place-policy-practice nexus thinking' in policy design. This means that the specific social, spatial, and cultural characteristics of an area should play a role in shaping policy. In the context of the GLA's Warmer Homes Programme the tension between the requirements of national policy and the realities of implementing it in London suggest that this principle could have improved both policy design and implementation. Bedford et al. (2023) agree that place-based approaches have clear economic and social benefits but emphasise the need for new local governance models empowered by central government.

With regards to adapting homes there are clear efficiency savings to be made by approaching retrofit street by street. Common challenges found in our research included complications caused by tenure, the unique requirements of specific properties, and long lead time resulting from the need for survey and investigation. Approaches which identify clusters of similar

housing might allow faster and more efficient de-carbonisation of domestic energy. However, the governance and policy challenges identified by Baranova and Bedford et al. also apply in this context.

Bolton *et al*. (2022) have highlighted the relational nature of retrofit; this means that householders do not make decisions as isolated 'rational' actors but are influenced by their relationships both, socially, with tradespeople, and in the context of grant-based funding, with funding providers. Our research found that social networks and place-based networks could help build trust in the Warmer Homes programme. There is potential to make more of this even without a full pivot to a place-based approach by continuing with a people-focused set of policies but creating communications strategies that tap into existing networks, or take place-based approaches to promoting the grants.

2 Methodology and Data Collection

2.1 Summary:

In order to evaluate the delivery of grant-based retrofit schemes our research used the GLA Warmer Homes Programme as a case study. We focused particularly on engagement and communication throughout the delivery process. In order to create a rich data set which would draw out the complexities of both participant experience and the delivery mechanisms the project focused on qualitative methods. The approach was twofold: first to understand the experience of those who benefited from the Warmer Homes programme, and second to engage with the complex network of stakeholders involved in delivering it. The methods were designed to generate qualitative data on the experience, perceptions and benefits of the programme. The analysis sought to establish the distances, mismatches and possibilities between, on the one hand; aims, objectives, schematic plans and communication materials and, on the other; how people respond to, interpret, adapt to and implement the programme. We adopted a collaborative approach to our research, engaging with both the GLA and other stakeholders both formally and informally throughout our project.

The methods deployed were:

1) Engagement with the GLA's Warmer Homes team as partners in the research process

2) A workshop with retrofit service providers, contractors, advocates and installers involved at all stages of delivering the programme.

3) Four follow-up one-to-one interviews with key stakeholders

4) Seven home visits and semi-structured interviews with Warmer Homes programme participants at different stages between application and installation.

5) The data gathered was analysed thematically. Interview transcripts and fieldwork notes were examined, and themes carefully generated by the research team. These themes were further considered in line with the literature and supported by the points emerging from stakeholder workshop and interviews.

6) Preliminary findings resulting from this analysis were organised into a set of themes. These were presented and discussed in a stakeholder workshop with representatives from the GLA, local authorities, delivery partners, and advocates. This workshop allowed us to refine and develop our findings by incorporating their feedback and sense-checking our data.

2.3 Preliminary Workshop:

A preliminary customer journey workshop was held with the main contractor and the installers they worked with. Most attendees at this workshop had worked on different phases of Warmer Homes or other LAD or HUG funded programmes. The ground-level perspective gained guided research and analysis, and in particular it sharpened our appreciation of the complex networks and supply chains involved in administering grant-based retrofit. This workshop is not directly quoted in our data because, in order to cultivate an open and collaborative context for discussion, we decided not to record or directly cite from this workshop. This set a positive tone for future discussions and collaboration and the key points from this initial workshop were all reflected and substantiated in the other elements of our data collection.

2.4 Stakeholder interviews:

Four semi-structured interviews were then carried out with stakeholders; the GLA, service providers and two representatives from organisations providing advocacy for programme participants. All participants were anonymised in order to allow professionals to speak freely without concern of reprimand. The mixture of voices from local government and delivery partners allowed for broader insights into the programme; from policy and Net Zero goals to managing clients and the installation process. These interviews were not intended to assess performance of specific individuals or organisations, but instead aimed to further explore themes highlighted in participant interviews and gather information about the various stages on programme implementation. Themes and issues raised in these stakeholder interviews reflect sector-wide issues and offered insight into possible routes to improve grant-based schemes.

2.5 Home visit interviews:

Seven home visit interviews were carried out with households at varying stages of the programme, some had energy efficiency measures installed and others were at earlier stages of engagement with the programme. In order to understand the more complex experiences of people who had taken part in the Warmer Homes programme, and to focus on vulnerable and harder to engage participants, we worked with the organisation South East London Community Energy (SELCE) to recruit participants. Our research prioritized depth over breadth, and in disseminating our findings to research users in our final workshop, it was clear that our data revealed the key issues in delivering the programme and offered nuance and substantiation to the practical matters of delivery and policy design. It was important that these vulnerable participants felt secure and understood the nature of the research, thus gatekeepers were key not only at recruitment, but throughout the research process. £60 shopping vouchers were given to home visit participants as a thank you for offering their time, knowledge and experiences. The research received ethical approval from the London South Bank University ethics panel and researchers received DBS (Disclosure and Barring Service) checks before contacting participants.

The Warmer Homes Programme relied on applicants giving their consent to contractors; allowing access to their houses, installing measures and, if needed, altering their homes. Home visit interviews were fundamental in this research to fully understand the experience of participants and gain a rounded picture of living environments. Home visits create a space to reveal dimensions of social life that may have been unrepresented when using traditional, language heavy, research methods (Ayrton, 2020; Nash and Moore, 2018) as they offer both verbal and non-verbal information about participant behaviour, space navigation, values and offer insights into the human element of home heating systems (Chavez, Gilbertson and Tod, 2017).

Semi-structured interviews were chosen to allow space for both focused and broader discussions and some exploratory questions were prepared based on themes identified in the customer journey workshop. The interviews were designed to understand participants motivations and their journey through the Warmer Homes Programme, therefore they were open ended to allow space for exploration. Using home visit semi-structured interviews allowed meant that our data was enriched by non-verbal information, negating the obstruction of preconceptions that interviewers may have (Mannay, 2016). It was important for participants to feel comfortable, especially as interviews were taking place in their home, therefore two researchers attended all but one of our home visit interviews. This created a more informal and conversational rapport with our participants and allowed each interviewer to collect their own visual data.

2.6 Analysis and preliminary findings workshop:

Interview data was transcribed then analysed thematically with key themes highlighted and quotes pulled. These themes formed the basis for a second workshop with advocates, the GLA, environmental representatives from various local London councils, service providers and other interested organisations. This second workshop aimed to evaluate participant journeys and understand the relationship between policy and lived experience, thus themes and quotes were challenged and validated by a group with direct knowledge of the programme. Key provocations were highlighted from the home visit interviews and

participants offered possible avenues to explore to improve retrofitting schemes. Whilst neither of our workshops are a source of verbatim they both fed into our analysis and findings, particularly via our recommendations for re-visiting the customer journey.

3. Findings

3.1 Summary

In order to highlight the elements of our analysis which are most relevant for research users and policy makers we take a thematic approach to presenting our findings. These thematic areas were identified first through analysis of interviews and then tested and developed through the final workshop. We hope that by presenting our findings in this way we can zero in on the themes which are most likely to support specific policy interventions. This chapter is structured around these thematic priorities, already introduced above:

1. **Managing Contact:** The programme lacked a strategy for managing the relationship between the grant-provider and recipients. The participants lacked a single point of contact or advocate.

2. **Wayfinding:** The programme is complicated with a lot of moving parts. Systems need to be developed to ensure participants understand the process, and their progress through it.

3. **Inform and Educate:** Participants did not feel that they were able to access information, and when they did receive information, it was not always useful. This resulted in a feeling of disempowerment, and it put additional pressure on decision making.

4. **Communicating Cost and Value:** Participants had a heightened awareness and unease about cost, and stakeholders were limited by funding streams at various stages of programme delivery.

5. **Preventing Disappointment:** The complexity of the programme meant that participants regularly experienced disappointment when things they expected did not materialise. This had a negative impact on trust and reputation for the programme.

6. **Feedback and Monitoring**: Participants felt unable to offer feedback during or after the programme. A system of feedback and monitoring is necessary to improve the participant journey and the programme as a whole.

7. **Make the most of community networks:** Many of our participants learned about the programme through community networks. Communication and trust could be improved by tapping into these through outreach programmes and working with existing organisations.

8. **Make positive experience a policy deliverable:** Grant recipients sometimes felt that they were having something 'done to' rather than 'done for' them. Policy delivery should measure success by outcomes for each individual household engaged as well as the utilisation of funds and number of measures installed.

3.2 Managing Contact

- Participants were contacted by a variety of people and organisations throughout the process which sometimes led to confusion.
- Designing a communication strategy with allocated time and varying modes of communication would allow for greater flexibility and a smoother process.
- A single point of contact or a key advocate for each participant would help build clarity and trust.

The complexity of the Warmer Homes Programme meant that a variety of organisations and contractors were involved in the process from initial administration to installation. Accounts were passed between these institutions, and this was not always clearly understood by our home-visit interviewees. This resulted in participants receiving calls, emails, home visits and

letters from a variety of people without them having clarity about where communications were coming from or what they referred to. Many of participants, because of their age group or other vulnerability were wary of receiving cold communications adding to the importance of good communication strategy.

In interviews, participants expressed preferences for communications, however these were rarely met by the programme. Some stressed the need to receive more in writing and others suggested that face-to-face meetings would have made them feel more at ease. Phone calls seemed to be, for most participants, the main method of communication from contractors, at times these were confusing and inconvenient. Designing a communication strategy with allocated time and varying modes of communication would allow for greater flexibility and a smoother process. Simple additions such as a mailout or a letter could be sent when people sign up to the programme offering information about who they will be contacted by. Those delivering the programme were also unsettled by fragmented communications as our interview with a service provider highlighted:

> *I don't think anyone at the onset of this programme thought about the call structure and contact points for these customers.*

With no clear point of contact, participants often found that they couldn't speak to the same person twice, a one-way line of communication that further elevated frustrations and mistrust. A need for a single point of contact for each participant is fundamental to successful communications and this, alongside a thoroughly designed strategy, would improve the participant journey.

3.3 Wayfinding

- Stakeholders found it difficult to access information about where participants were on their journey, what works had been approved and what works had been installed.
- A clear schematic outlining what customers could expect should be available to everyone who applies to the programme. This should include information about

installations on offer, how they might benefit each home and how to use each device, a possible timeline and points of contact.

- An updatable customer journey portal should be made available for those implementing the programme.

Retrofitting schemes such as the Warmer Homes Programme are complex and each property has varying needs therefore no two works are the same, however from initial design there seems to be a lack of consideration about the practicalities and limitations on the ground. Participants and those delivering the programme found themselves frustrated by their need for better clarity. Participants often felt that if they didn't take an active role, they wouldn't move forward in the process, therefore many invested a lot of their time and effort in order to benefit from the Warmer Homes programme. For some people, this drive carried them through the process, as commented by participant six:

> *At one stage, I thought, you know what, I haven't got the energy. But then I thought, you know what? I've come so far. It feels like I would have wasted all that time and, you know, input and calls, and inconvenience myself. You know, I felt like it would have all been a waste of time for nothing. So that's what gave me the drive.*

In other cases, participants felt they needed to assert themselves to take control and find their way through the programme. Participant five felt that they had been offered a multitude of works that had not materialised, they adopted a position of authority:

> *'I employed them, I told them and they didn't like it.*

This led to tensions between stakeholders and participants which was further exacerbated by the lack of information available to those implementing the programme. For those involved in delivery, participants found communication inconsistent with no single individual taking responsibility for the entire process. There is a need for a better system to manage each household and to provide oversight through a single platform such as a customer portal. Resources and service requirements would need to be put in place to ensure this information was kept up to date by relevant parties.

From a customer perspective, at a minimum they need to have a better understanding of the process and the organisations involved in delivering measures for their home. A simple way to address this would be by designing a schematic outlining process, key contacts, and giving a sense of what the number and nature of contacts and visits that they will receive. This should include information about specific measures on offer, how they might benefit each home and how to use each device. This schematic alongside a customer journey portal would mean that on both the side of recipients and delivery there would be a clear sense of progress and direction at each stage. It would help manage expectations and potentially clarify what has taken place when progress stalls or deviates from these expectations.

3.4 Inform and Educate

- Participants didn't always feel that they had a clear picture when they were asked to make decisions and often found that explanations were not forthcoming.
- Information should be both available *and* useful. This means that information must be presented in accessible formats and with clear explanation in plain English.

Access to information proved difficult for participants throughout the Warmer Homes Scheme; a significant issue when participants were asked to make decisions about what measures should be installed in their homes. This limited access to information alongside the lack of communication resulted in participants feeling disempowered and unable to make informed decisions. When speaking to Participant One, they explained how they were asked to make important decisions about potential works:

> *'...he's a bit of a random guy and he just said right, so you've got choice of four things; we can do your walls, we can do your floors, we can do your windows, we can do your roof, which one do you want? You know? And I'm saying, well I'm out in the shops at the moment and I'll speak to my wife, but what does it mean really? Well, that's all we can say, you know, it's very unprofessionally done.'*

Not only did the participant feel unprepared for the call but they also felt unable to make a decision which would suit the aims of the grant. When people did ask for more information,

they could feel dismissed or ignored. In some cases, participants were given access to information which was of little help as it was not explained to them.

A lack of information or understanding could impact the householder at any stage in the process. However the completion of the property assessment was a common trigger. After eligibility was agreed each property would be assessed in order to identify potential measures. The retrofit assessment process would be completed after a visit from a Trustmark accredited 'Retrofit Assessor' (PEPA 2022). This would generate a report which would inform the decisions about which measures would be installed in the household. Whilst the GLA resident journey sets an expectation that this should be shared with the resident this was often not the case. The Retrofit Assessment is a technical document designed to inform the design and installation process but without access participants felt confused about how to make decisions. Better availability and understanding of this information could lead to better decisions however this was not available when requested:

> *I got a call out of the blue from someone from [installer] saying, alright, we've got your assessment, and I'd asked for a copy of the assessment, and they said oh, no, no, no, it's property of this or the property of that. (Participant One)*

In many cases the only written documentation that participants had to help them understand the works that would be undertaken was a contract. Participants were required to sign a contract before works could begin however these documents were hard for our interviewees to interpret. Th*e* contract's use of legal jargon further alienated participants and the lack of access to information meant that people felt alienated from the wider aims of the policy.

Information and education are important not only for decision making but also for the continued life of the measures installed. One participant, who'd had solar panels installed, could not explain to us how these worked or explain what each button did. When we asked about maintenance or whether they were left any information about how to use them, they were unable to answer and were not sure where they would go to access such information.

3.5 Communicating Cost and Value

- When people feel like they are getting something for free they can struggle to vocalise questions, preferences and/or complaints.
- Participants were often offered measures that were later retracted due to funding limitations which created a heightened awareness and unease about cost.
- As beneficiaries or a grant residents should still be afforded the agency of a 'customer' to be able to voice opinions and concerns about works carried out in their home.

Receiving something for free is not straightforward and often made participating in the programme challenging. Participants were very aware of the role that funding played, not only in limiting the measures on offer and quality of experience but also how they might be perceived as beneficiaries. These two notions ran in parallel and in an interview with one advocate, they noted:

> *There's an assumption that because it's free, people don't need all the info about what they're undertaking or what the experience is going to be like. Because to some extent, people put up with some of the problems in the... In this process because they're getting it for free.*

Although the measures offered could be considered free, per se, they are being installed into someone's property therefore people want assurances that the works will be carried out to a good standard and are in keeping with their home. Some participants found this situation to be awkward; reluctant to ask questions and voice preferences as they are not entitled to complain if they are not paying for it. If measures are installed to a low standard or are not in keeping with the home, these works can end up costing participants significant amounts of money to rectify, let alone the emotional stress some may experience on top of this. Participants need to be given a sense of agency to be able to voice opinions and concerns about works carried out in their home.

3.6 Preventing Disappointment

- The mention of specific amounts of grant eligibility was distracting and created challenges for engaging with programme participants throughout the programme.
- The complexity of the programme meant that participants regularly experienced disappointment when things they expected did not materialise.
- Re-designing communications can help manage and clarify expectations even if external factors cannot be addressed in the short to medium term.

Amongst both stakeholders and programme participants it was clear that managing expectations and preventing disappointment were significant challenges. Initial communications with the public by the GLA were headlined with eye-catching sums of money which were not representative of reality. A leaflet stating that residents could qualify for a grant of twenty-five thousand pounds was mailed through letter boxes and posted on social media. According to the contractor for the programme, fewer than ten grants were made at this level. This cast a significant shadow across the promotion and implementation of the programme. We learned from stakeholders that participants sometimes judged their entitlement versus this sum, rather than understanding the specific aims of the programme, e.g. to improve the energy efficiency of their home. Explaining the reasons that this was not a common sum for a grant was challenging, as one of our interviewees explained:

> *'there's been a lot of conversations at every stage of the process that pivot around twenty five thousand pounds. You then have to get into the real detail of the programme and the funding rules and that's very difficult to explain'*

Whilst it might feel intuitive to focus on funding when promoting a grant-based scheme the complex reality of implementation meant that talking about money in general terms only fuelled the sense of disappointment amongst some participants.

The process itself also contributed to the frequent occurrence of disappointment. Both participants and their houses needed to be assessed, and the availability of measures was subject to the specific criteria of individual funding streams. From the perspective of the individual participant this created frustration. Participant two described their experience:

'They kept coming back to tell me that "look now this is not possible." Then as a I would call towards the end of almost a year they say "Actually, this also is not possible". Then finally "This also is not possible."… why is it not possible when it was approved.'

The complexity of eligibility, approval, assessment, and installation meant that this kind of experience was common amongst those we interviewed. Disappointment puts a strain on the relationship between grant recipients and stakeholders, the reasons for these shortcomings was often hard to explain and led to a loss of agency. A feeling of being 'done to' rather than 'done for'. One impact of this was that residents could refuse access to installers for final stages of installation such as ventilation, a crucial provision to prevent issues with mould and damp.

Clearer management of expectations throughout the project could help mitigate the negative impact of disappointment, even for participants who ultimately do receive measures. Even if timelines and delivery remain limited by funding and supply chain, a new approach to communication and service design has the potential to reduce the frequency and impact of disappointment.

3.7 Feedback & Monitoring

- The Warmer Homes Programme relies on participants opening their home to strangers. Negative experiences with installation could be very upsetting.
- Limited funding and short-term contracts create a scarcity of contractors. This limited pool of contractors means service quality can drop.
- Negative experiences can be reduced through the use of measures to assess quality and experience, including two-way channels for giving and responding to feedback from participants.

Central government specified funding requirements and short time-frames put pressure on the supply chain and make participation in retrofit projects commercially challenging for contractors. This greatly impacted the pool of contractors available to carry out works. This was one of the main challenges faced by the GLA and their delivery partners. This led to a perception for one advocate involved in supporting participants in the programme that negative feedback was not always acted on:

> *I think even when there are complaints about them, even when people are not happy with them, they're still there in the next round. (Advocate)*

Ensuring quality in the context of these market constraints is a challenge across the retrofit sector.

The complexity of the delivery process, combined with a lack of resource for customer service and feedback, has had a negative impact on trust for contractors, installers, advocates, and participants alike. Whilst there is no quick fix for the external challenges faced by energy de-carbonisation work in terms of skills and supply chain; a more robust feedback and monitoring protocol could mitigate shortcomings in service and misunderstandings occurring in the course of the programme.

Installers attending private homes is a more sensitive interaction than is appreciated in the process design of the Warmer Homes programme. Particularly as contractors are not chosen by participants but often assigned, and visits are not consistently explained or forewarned. Due to the means-tested nature of the programme many participants are vulnerable for instance due to age or disability, this part of the population are rightly sensitive to people coming into their homes. Having a stranger arrive at your home, sometimes with little clarity as to what they are there for can be a vulnerable moment. Installers should have a robust and consistent process for making appointments, explaining the nature of a visit, and for managing the needs of a resident during a visit.

Due to a lack of a single point of contact, or a platform for managing the accounts of households participating in the programme, there is no consistent route to record and respond to feedback. Participants with poor experiences often relied on advocates or other trusted

people to support them in dealing with concerns. A monitoring strategy could be created that not only allows room for feedback but also ensures that participants are heard and responded to. Whilst these interventions may help mitigate these problems, the external factors must be tackled. When designing grant-based schemes, the impact of funding streams and time scales need to be considered and strategies implemented to make these programmes more desirable for contractors, as widening the pool will improve work quality.

3.8 Make the most of Community Networks

- Several of our interviewees had engaged with the programme because of family members or neighbours making a recommendation. Community networks can help foster trust and disseminate knowledge.
- Well informed community and place-based networks can be engaged to disseminate a better understanding of the programme and its eligibility requirements. In this way new participants can be brought into the programme without too much costly eligibility sifting.
- Where participants need extra support, particularly the elderly and vulnerable, existing relationships are important for decision-making.

Area or community-based approaches could efficiently introduce eligible participants to the programme with fewer resources by utilising word-of-mouth marketing and informed networks. These approaches may also help increase trust in the programme by vouching for the programme and sharing information which can help make the programme more navigable. Whilst some participants benefited from these connections, others felt isolated in the process. Tapping into these social networks would be a good way of sharing information. Those who knew others with measures installed were able to view finished works, get a first-hand account of processes, ask questions about how to use equipment and get advice on decision making. Participant four was offered solar panels, and after discussing this with a neighbour who had also had panels installed, they said this:

> *Right, well, because the lady down there, who does have only six panels, said that when she puts on the iron, that's her energy gone, so how much use the solar panels*

are, when you can't store up the electricity that you've kept, the solar heat that you've kept during the summer, you can't store it, at the moment, so I don't know how efficient solar panels are, really.

There are, of course, limitations to this, in that poor information can also be transferred through community networks as easily as good information can be. If the social networks are utilised in line with giving participants proper access to information, then they can create benefits for the programme and for individual households. For instance, with better engagement from the GLA participant four might be able to act as an advocate for solar panels and explain how better to use the technology to prevent the issues which they are concerned about in the quote above.

By targeting promotion of the programme at community groups or specific areas, a small investment could result in more effective participant generation for the programme. A networked approach to recruitment and communication could provide some of the efficiency savings of a place-based approach. Because of the time-cost of engaging with the public in this way it would be ideal to go through existing organisations or community organisers.

3.9 Make positive experience a policy deliverable.

- Stakeholders and participants often felt disempowered by the programme and policy design. Future iterations of the programme should focus on the delivery as a 'service'.
- The delivery of measures and the drawing down of funding sometimes felt in tension with the delivery of good experiences for participants. Service and experience should be integrated into policy and delivery at every stage.
- At all scales, policy targets should include a set of expectations in terms of service quality including for participants who are deemed ineligible or do not progress for other reasons.

> *The decisions aren't made with customers in mind. The decisions are made with policy targets in mind. (Service Provider)*

Policy targets should not be viewed in tension with the experience of participants. The quotation above which represents a near consensus amongst the stakeholders we engaged illustrates a problem that needs to be addressed at every level from national policy to service design. A positive experience for participants is crucial for success. It benefits the reputation of retrofit programmes; it supports education and engagement; it helps prevent incomplete projects; it ensures that participants feel more confident in seeking help after installation. The perception amongst many stakeholders was that the pressure to deliver measures within the tight time frame of each phase of funding from HUG and LAD, as well as shifting eligibility requirements made it harder to focus on the outcomes of individual households. It was the view of our research team that these impacts could also be mitigated through more resident-focused delivery processes. Could participant experiences and people-focused delivery should be led from central government and made a condition of grant-based funding.

The programme is designed in a way that allows for funding for a certain amount of works but doesn't consider the human side of a programme, as commented on in our interviewee from the GLA:

> *I feel that some of the challenge with those [national] schemes comes from them being designed by folks who are not necessarily entirely familiar with what it means to retrofit several hundred, several thousand individual properties, all of whom have to be found, selected, tested for eligibility, and so on and so on and so on. (GLA)*

This impacted participants because decision making was not always clear to them. Participants who asked for measures outside of the parameters of the funding or questioned the measures being offered were as likely to receive an explanation of funding requirements as they were an explanation of the wisdom of the decision in terms of the outcomes for their household. This made customers feel undervalued disempowered as it seemed that their views about what should take place in their own properties were not being taken into account. The feeling of having something 'done to' instead of 'done for' repeats the worst traits of conditional welfare (Dwyer 1998).

When policy interventions for homes, it is important to consider that each house is a home and therefore people are putting a lot of trust into stakeholders. The domestic environment is not simply a 'property' subject to utilitarian decision making but an emotionally culturally important place for residents. A successful domestic retrofit policy programme must take into account the level of trust required from participants to welcome representatives of the state into their home. Grant-based retrofit is not simply a replication of private home renovation, or even works undertaken by a landlord. The Warmer Homes programme, like other similar interventions, makes the home a site for the fulfilment of national policy priorities. Where the goal of a policy is to transform a domestic environment the positive experience of the householder must be one of the policy deliverables, not an afterthought or a responsibility to be solely devolved to delivery bodies or contractors.

4. Implications for Customer Journey

The final phase of this research project involved a workshop with participants from the GLA, London boroughs, and other stakeholders in the Warmer Homes Programme. In this workshop we shared our research findings and asked participants to consider how they might adapt the programme's 'customer journey' in response to our provocations. It is important to re-iterate that some of the challenges faced by a programme like this one can be traced to external factors namely funding, policy, and supply chain. These issues are unlikely to be dealt with without intervention from central government. The issues can be summarised as follows:

- Central government funding sources tend to be administered with 12–18 month time frames. Designing new processes to meet eligibility requirements and policy goals in this timeframe is challenging, and decisions get made in the interest of meeting funding requirements rather than creating the best possible outcomes as a result.
- These short timelines combined with requirements for accreditation and training through schemes like Trustmark mean that the cost for entry for installers is high and the pool of willing suppliers is relatively small as a result.

- Skills and supply chain for domestic retrofit are constrained. This creates knock on effects for installers and put pressure on the delivery of retrofit measures as part of Warmer Homes.

For the purposes of this workshop however, we encouraged participants to concentrate on the things that could be improved by adapting the delivery of the programme. In order to discuss the journey we explored three phases; qualification, property assessment, and installation and aftercare. The following sections provide a summary of recommendations resulting from our collaborative workshop.

4.1 Qualification

Qualification and eligibility assessment for participation should be baked into the engagement process from the start. Currently, a large percentage of applicants are not eligible for any measures. These applications consume a considerable amount of admin time, therefore an improvement to the application procedure and an introduction of clear eligibility parameters will streamline the process. Better systems design should ensure that application is streamlined and information and customer preferences are available to those who need it.

Reduce administrative burden by adapting communications and advertisement:
- Initial communications to focus on who can access the programme as well as what they can access. This will mean that efforts are being focussed on households who are likely to be able to receive grants.
- The application and sign-up process should be treated as a form of 'pre-qualification', with initial questions and promotion designed to ensure that those applying are eligible.
- Clearly presented eligibility messaging within advertisement and application procedures will decrease the number of ineligible applicants. Time can be applied more accurately when checking documentation and the process will be streamlined.

Creating new systems for eligibility assessment:
- Elements of eligibility checking could be automated, possibly through a centrally administered applications platform that could see applicants directed to relevant

boroughs and authorities. This could also include a system that can draw from data from government bodies e.g. HMRC.

- Questions would prompt participants to explain their communication preferences and any other additional needs which could then be communicated to relevant individuals and organisations involved in the programme.

- Automated communications designed to set expectations about time scale, likelihood of progress in the programme, key contacts and routes for feedback.

4.2 Property Assessment

Participants should have better access to their progress in the programme and the information that has been collected about their case as this will help them better understand and prepare for their journey through the programme. Appointments and home visits need to be well communicated. Information about what can be expected should be available in advance and after any consultations and appointments a summary of work or discussion should be given.

Create a robust customer relations management (CRM) system:
- Ideally a CRM portal should collect all relevant reports, contact details for installers and contractors, and provide a sense of expected timeline. This platform could sit with central government and be used across all regions.

- A CRM portal could provide a single point of contact. It is particularly important for vulnerable participants that an advocate and/or account managers should be attached to each household and have access to all relevant data regarding their progress in the programme.

- For those with low digital literacy or lack the resources to access an online portal, alternative access should be made available, for example printed material. Every participant should have access to the information they require in an appropriate accessible format.

Better structures should be in place for managing contact, particularly home visits:
- At a minimum, a simple schema should be designed and provided to all participants once they have been accepted onto the programme. This should

include key contact information and an expected timeline for property assessment and works, including a comprehensive list of likely appointments and home visits.

- It is particularly important for vulnerable participants that appointments are pro-actively managed well in advance. More than providing notice, the expectation should be that participants confirm their understanding and consent for home visits.

- When data is collected about the home (e.g. air flow, insulation, whole-house survey), participants should be given access to this information and explanations should be available where necessary.

4.3 Installation and Aftercare

Communications about works need to be done in plain English, and participants need to be given a clear understanding of the measures that will be installed in their homes and the reason for each element of those measures. This will positively impact participants' experience as with a better understanding they are able to navigate the programme more effectively, and a deeper knowledge will alleviate concern that arises from the unknown.

- Following from the initial assessment, a discussion about why certain measures have been suggested and information about the expected installation procedures should be clearly communicated with participants. Currently this information is often delivered in the form of a contract which is not only hard to understand due to the language used, but also reaches participants after long periods of uncertainty and confusion.

- The stages of this installation, and insofar as is possible, the appointments and timescale need to be shared with advance notice.

- There is a need for a persuasive and discursive approach to explaining measures and engaging participants.

- For instance we found that ventilation, a necessary part of insulation measures, were often queried by participants who interpreted their installation as additional rather than an integral part of measures that increase air-tightness and insulation.

A protocol should be developed to manage communication around appointments and to set expectations for best practice around lateness, re-arranging times and delays. Levels of trust fall when participants are not made aware of delays or scheduling issues, therefore a clear protocol to manage communication will foster a sense of clarity and will help manage expectations.

- It is necessary to acknowledge that given the complexities of the building trade and particularly skills and supply chain constraints in retrofit, that delays may take place. Participants need to have this explained and expectations managed.

- There should be a clear protocol which is monitored and enforced about timings and appointments. A system designed to send notifications about appointments and reminder messages will bring clarity to the process for participants. A clear set of guidelines for communicating delays will bring consistency to the programme.

Aftercare is largely overlooked in the current customer journey and monitoring is more likely to be designed to satisfy requirements of the funding than the needs of programme beneficiaries. It is important to understand how participants experienced the programme to address areas of improvement and ensure continued success both for the programme as a whole and for net zero targets.

- A basic set of expectations regarding aftercare should be established between participant and the GLA via contractors.

- This could include a follow-up visit scheduled at completion of installation to check that participants understand measures and are using them correctly.

- A robust feedback procedure needs to be put in place so that participants feel powered to provide feedback and seek reassurance after the completion of works.

5. Conclusion

Our analysis of the Warmer Homes Programme demonstrates the central importance of communication and process design in delivering grant-based home retrofit schemes. Grant-based and means tested interventions into the private housing sector will be an essential to de-carbonise domestic energy. Furthermore, our findings illustrate the wider importance of

engaging the public in the implementation of de-carbonising measures. Policy makers and delivery bodies in all areas of net zero policy must attend to the everyday and individual impacts of these measures and the disruption that comes with big intervention into daily life. Whilst there is an urgent need to scale up net zero adaptation in all areas of society and business, there must also be robust measures which ensure that negative experiences are avoided and the public feel that their contribution to this process is recognised. The extent of transformation required to de-carbonise domestic energy and reduce fuel poverty is significant. The process will rely on the education and good will of the public to accept adaptations not only to their homes but many aspects of their life. Each policy intervention designed to meet net zero goals must prioritise the experience of participants and beneficiaries to continue to build trust, reputation, and understanding in de-carbonisation at all scales.

5.1 A people-first approach

The delivery of net-zero measures and decarbonisation is an urgent matter. It also requires long-term planning and consistency. The Warmer Homes Programme, as well as other similar programmes, has been marked by short-term cycles of funding with inconsistent approaches to eligibility and policy aims. These pressured rhythms, imposed by spending targets and short turnaround deadlines, cascade from central government down through local authorities, contractors, and individual recipients of grants. A revision of the ways in which policy is designed, implemented, and evaluated is crucial to address this fundamental problem. However, it is possible to make some improvements at the level of service design and communication that would protect the public and the operators on the ground from a counterproductive atmosphere of urgency.

As energy transitions in private homes becomes more urgent, the public are being asked to accept inconvenience and disruption not only for their personal gain but for the benefit of the wider society. This research gave both participants and stakeholders an opportunity to reflect on their status as recipients of a grant, and their role in the delivery of net-zero measures.

Meeting net zero targets will rely on the good will of the public and their awareness of the collective benefits of their private choices. We observed that the mode of delivery of the

programme encourages recipients to adopt the position of 'grateful welfare recipients' at the expense of a mode of engagement that makes them feel valued for their willing participation. Instead, participants in schemes such as this one should be recognised for their willingness to contribute to a collective effort to de-carbonise energy. Policy must prioritise participants' agency and create mechanisms for the amplification of the participants' voice. The public in this programme must not be treated as passive recipients of a benefit but rather considered as active participants in a policy designed to improve outcomes for all.

5.2 Robust approaches to service design and communication

Each member of the public who participates in a grant-based scheme should feel that their specific experience is appreciated and assured by the scheme provider. A greater degree of trust can be established between members of the public and the coalition of public and private actors involved in policy that seeks to meet and exceed net zero targets. This necessitates a concerted effort to improve public engagement and service as part of delivering net zero policy. This cannot be the responsibility of delivery authorities alone (e.g. the GLA). Whilst local authorities and service providers can make significant improvements, effective improvement at this level must be led and enabled by central government. Our workshops and interviews showed that a significant difference could be made with public education on issues such as the importance of ventilation or more general ones like the public responsibility of home heating choices. This would need to be led by central government.

At the level of service design and delivery, we suggest prioritising two changes that were most often discussed in workshops and interviews with stakeholders and residents. First that there should be single point of contact, and/or a portal or account management system which will ensure that each household's process through qualification, assessment, installation, and aftercare will be monitored. This would allow a better overview for stakeholders *and* a better service for the public. Programme participants should always know who to call when they have queries about the progress of their account and their feedback should be logged and shared between stakeholders when necessary. Participants should have easy access to information held about their homes and installation. For participants with additional needs, reasonable adjustments should be made to support them in accessing and interpreting this information. Second, we suggest a short-term and low-cost improvement: the design of a

clear map of the process including a directory of contacts and a description of likely timescale and elements to installation. This should be easily achievable and will have significant impact on the ability of participants to navigate the programme.

It is also important to make sure that participants are educated and empowered to make the most of the possibilities and scope of the programme. In our observations participants often felt that they did not have a clear understanding of the options available to them and then of the assessment and installation procedures that their homes were undergoing. This meant that when they were asked to make decisions about installation, they could not always make these in an informed manner. Any policy which has the goal of adapting behaviour or altering the fabric of households in order to create public benefits must educate participants as they do so. This is particularly important because the potential value of adaptations and new technologies will only be realised when they are used in an optimum way.

5.3 Networks & Place

The key central government funding sources deployed by the GLA Warmer Homes Programme have used eligibility in terms of income, benefits, and the fabric of homes to allocate grants. This approach adds to the complexity of the process as each household comes onto the programme with the need for a full eligibility and property assessment process before measures can be designed and installed. Additionally, the broadcast approach to promoting the programme has created some challenges, for instance by promoting the programme to members of the public who are not eligible (e.g. social tenants). There is an understanding amongst those implementing the programme that a more targeted approach could improve efficiency and save resources.

One solution could be a place-based approach. This could streamline both eligibility and property assessments by allowing delivery bodies or even community groups to 'pre-qualify' households and make an advance assessment of the most valuable measures for a given set of properties. The complexity that we observed is partly the result of the heterogeneity of households being brought onto the programme, both in terms of their individual needs and the fabric of their homes. However further research should be done to assess the potential

impacts of a place-based approach on neighbourhoods in terms of house prices, gentrification, and perceptions of unfairness.

In our data collection we spoke to individuals who came onto the programme after personal recommendations from their own place-based and familial networks. Sometimes this was place-based but not always. In line with the findings of Bolton et al. (2023) regarding the 'relational' nature of retrofit; and Baranova's (2023) encapsulation of the 'Place-Policy-Practice' nexus we suggest that there is an opportunity for a networked approach that could create efficiency savings without the need for a fully place-based approach. Existing funding programmes such as Warmer Homes could target community groups and encourage referral and sharing within social networks. By making the most of social and geographical networks it may be possible for grants to be allocated along the lines of least resistance.

Finally, it is essential that the delivery bodies involved in making interventions and delivering policy account for reputation in their programme design. An approach to the public which prioritises feedback and customer service may be able to mitigate some of the external challenges faced by net zero policy implementation. Cultivating a relationship of trust and creating positive experiences of home decarbonisation is essential not just for grant-based programmes but for the wider challenge of encouraging the public to adapt their homes and wider energy use in the interest of the environment.

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