

Norfolk Net Zero Communities:

An exploration of the non-technical
barriers limiting Norfolk residents
making more climate positive
choices



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Executive Summary

Introduction and Project Overview

The Norfolk Net Zero Communities project, funded by Innovate UK, collaborated with residents, local organisations, and businesses across seven pilot communities in Norfolk to understand and address key 'non-technical' barriers to decarbonising homes and promoting climate action. The project aimed to explore what makes it easier for residents to improve home energy efficiency, use greener travel methods, and access renewable heat and power.

Methodology

The project used a place-based engagement approach, listening to diverse community stakeholders, residents and businesses to understand local needs and challenges. It was delivered in two phases: insight gathering (Phase One) and intervention testing (Phase Two). Findings were analysed using the COM-B behavioural framework (Capability, Opportunity, Motivation, Behaviour).

Engagement included stakeholder mapping, a Community Coordinator role, in-person tools, an online survey, and a focus group, with diversity, equity, and inclusion embedded throughout. While transport barriers were identified, they were largely systemic, leading the project's focus to shift towards home energy efficiency and retrofit to generate practical insights.

Across the two phases there were 76 different engagement activities, reaching 576 people across the seven communities of which 314 engaged online and 262 in person.

Phase One: Identifying Barriers

Phase one identified significant non-technical barriers including knowledge, trust, and financial aspects.

- **Knowledge Barriers:** Residents lacked clear, impartial, and tailored advice on where to start with home energy improvements. Awareness of retrofit options was low, and confusion existed, particularly for older or heritage properties, highlighting the need for house and life stage specific guidance.
- **Trust and Misinformation Barriers:** Widespread mistrust existed towards tradespeople, installers, and energy companies, often due to awareness of rogue firms and scams. Negative perceptions of retrofit as disruptive or risky also contributed. Friends, neighbours, and charitable organisations were consistently identified as the most trusted sources of information, significantly more so than energy companies or national media.
- **Financial Barriers:** Cost barriers were widespread across all communities and demographics. High upfront costs, uncertainty about return on investment, and concerns about the impact on property value were significant obstacles. Awareness of available grants, subsidies and loans was low, and residents often incorrectly assumed they were ineligible. Financial support was seen as a key motivator.
- **The Importance of Place:** Some barriers such as financial concerns and a lack of trusted advice, were consistent across communities, while others varied. Barriers and engagement preferences varied significantly across communities due to differences in housing stock, demographics, infrastructure and social connections. Engagement preferences also varied by place, while trusted local networks facilitated outreach and helped counter fear of scams.
- **Barriers Specific to Businesses:** Local businesses and tradespeople faced challenges including being too busy to upskill, administrative complexity with grant



schemes and sometimes scepticism in new technologies. Engaging them is crucial as they can play an influential role in household energy decisions. They need both evidence of household demand and communications to overcome household misinformation.

Phase Two: Testing interventions and outcomes

Based on the barriers identified, Phase two tested several interventions aimed at increasing residents' willingness and ability to retrofit their homes:

- **Developing Local Case Studies:** This involved supporting community groups to share stories of local retrofit projects. **Outcome: Locally led case studies proved to be a low-cost, effective way to build trust, raise awareness, and counter negativity by showcasing real experiences in familiar settings especially in areas with low confidence or uptake.** They made retrofit relatable and credible.
- **Energy Champion Initiative:** This piloted placing a trained, trusted individual within a community to provide energy advice. **Outcome: Knowledgeable trained, locals within communities appears to boost resident confidence and understanding of home energy improvements and should be explored further.** The model makes retrofit advice more accessible and relatable through peer-led support. **Challenges include recruitment and sustaining funding.**
- **NESTA 'Visit a Heat Pump' Open Homes Initiative:** This allowed residents to visit homes with heat pumps installed. **Outcome: In-person visits helped build trust and shift perceptions of heat pumps by offering real-life, peer-led experiences.** Visitors found them quieter and more compact than expected. **However, low host availability, privacy concerns and practical barriers limited reach.** These visits are likely more impactful when run by trusted individuals like Energy Champions and could be complemented with case studies.
- **Energy Drop-in Events:** Local events offering face-to-face advice were organised. **Outcome: Local drop-in events were an impactful way to engage residents,** particularly effective when offering face-to-face advice, partnering with experts and known local groups, utilising localised promotion (e.g., leaflets, posters) and holding events in familiar local venues at flexible times. Partnering with trusted organisations and local leaders added credibility. However, they can be resource intensive and require lots of promotion.
- **Message Testing Focus Group (Working Age Households):** An online focus group explored messaging preferences with residents aged 30-45. **Outcome: This group preferred positive, practical messaging focused on co-benefits like warmth, cost savings, and increased home value, with environmental aspects as secondary support.** Directive, negative, or anxiety-inducing messaging was disliked. While digital engagement was preferred due to time constraints, in-person engagement was welcomed if integrated into existing activities.
- **Other Interventions:** A Heritage Property Retrofit Event with experts and case studies received positive feedback. A Thermal Imaging Camera Loan Scheme helped visualise energy loss but faced technical challenges.

Conclusion

The project confirmed that non-technical barriers, particularly around knowledge, confidence, and trust are significant obstacles to making home energy improvements in Norfolk. Overcoming these is crucial for accelerating progress towards net zero. Financial barriers are complex, influenced by life stage and perceptions of eligibility, requiring a nuanced approach to simplify and tailor information. Some barriers were universal, like the demand for impartial



advice and widespread mistrust of retrofit installers, while others were highly space specific such as concerns about retrofitting heritage homes.

Progress was most evident in communities with strong local leadership, active community networks, and visible champions, and slower in areas with fragmented interest where other issues took priority. The most effective interventions were rooted in place and used trusted messengers like neighbours, local organisations, and councillors to increase engagement. This shows the role of people in decarbonising homes in Norfolk and the importance of focusing on trust, relatable stories, tailored advice, and local networks, all considering the unique characteristics of each place.

Key recommendations:

The following recommendations are ordered to reflect a balance between quick wins and longer-term, higher-impact actions. All are important, but their scale and depth could be adjusted based on available resources. Implementation should be tailored and locally informed.

- 1. Showcase relatable, local stories:** Use real-life case studies from within the community to demonstrate the benefits of low-carbon technologies. Highlighting trusted, local voices can help build confidence, dispel scepticism, and inspire others to take action. These stories should be diverse and reflect a range of housing types, financial circumstances, and retrofit experiences. This is a low-cost, impactful option.
- 2. Communicate funding options:** Increase awareness of available funding by promoting through local trusted channels and address widespread eligibility misconceptions. Focus communications on cost benefits or increased home value.
- 3. Use positive messaging to nudge action:** Avoid directive, negative or environmental led messaging focusing instead on resident co-benefits such as warmth and cost benefits of making home energy upgrades. Consider further testing and refining of messaging to ensure it resonates with different audiences.
- 4. Empower local leaders and community champions:** Identify and support trusted local figures who can act as retrofit ambassadors. Their involvement adds trust, credibility and can help spark wider community interest and demand. Consider developing case studies of these leaders and establishing a peer-led network across the county to sustain momentum, share experiences, and provide mutual support.
- 5. Expand the Energy Champion model:** Invest in recruiting and training local, community champions to provide personalised, trusted retrofit advice. Ensure sustained funding to scale this approach across Norfolk. Explore champions also offering open home events where they have technology such as heat pumps, to offer visitors greater knowledge and build trust and sustain the model.
- 6. Embed equity and inclusion throughout:** Ensure that every aspect of the project considers equity and inclusion. While requiring more effort, continue to prioritise engagement with underrepresented groups, (alongside those already engaged), particularly renters, younger families, and residents who are digitally excluded. Use a combination of online and offline approaches tailored to different needs, guided by the fictional user personas developed during the project.
- 7. Support tailored outreach by place:** Work with local leaders, parish councils, and organisations to deliver events, communications, and support that reflect the character, barriers, and needs of each community. For example, either hosting energy specific local events in partnership with credible organisations, well promoted by trusted messengers, or tack onto events residents are already attending to increase engagement.



Introduction

Background to the project

The Norfolk Net Zero Communities project, funded by Innovate UK, worked with residents, local organisations and businesses across seven pilot communities in Norfolk to explore ways to decarbonise homes and help tackle climate change.

The project aimed to identify and overcome key 'non-technical' barriers (communication or behavioural, over systemic barriers) to make it easier for residents to:

- To make changes to properties so they are more energy efficient
- Use greener ways to travel
- Create and access renewable heat and power

The seven pilot communities, one from each district in Norfolk included:

- Marshland St James (Borough Council of King's Lynn and West Norfolk)
- Swaffham (Breckland Council)
- Eaton (Norwich City Council)
- Loddon & Chedgrave (South Norfolk Council)
- Brundall Ward (Broadland Council)
- Ormesby Ward (Great Yarmouth Borough Council)
- Stalham (North Norfolk District Council)

The Norfolk Climate Change Partnership secured the fund and bought on UK environmental charity, Hubbub, as engagement partners. Hubbub are a creative charity focused on inspiring environmental action that makes sense, for people, communities, and businesses.



Image 1: Map of Norfolk Net Zero Communities designed by local artist Madeleine Smith.



Methodology

What we did

Our engagement process centered on listening to a diverse range of community stakeholders to understand local energy and travel-related needs and challenges. The project aimed to meet people where they were at, engaging ‘with’ and not ‘to’ residents, taking a place-based approach to understand residents’ needs and priorities. ‘Place-based’ means considering the unique characteristics of a place or community, understanding the role of place helps to ascertain where interventions or communications need to be varied to have more impact, therefore not assuming ‘one size fits all’.

How we did it

The project was delivered in two key phases. The first phase focused on gathering insights, while the second tested potential interventions. To analyse the findings from phase one, we applied the COM-B model: a behavioural framework that examines capability (knowledge and skills), opportunity (external factors), and motivation (internal drivers).

The findings are broadly divided into **three main types of barriers to energy efficiency and climate action: knowledge barriers, trust and misinformation barriers and financial barriers.**

Knowledge barriers

- Lack of clear, impartial advice
- Low awareness of retrofit options
- Confusion about upgrading older or heritage properties

Trust and misinformation barriers

- Fear of scams and mistrust of energy companies and installers
- Negative perceptions of retrofit as disruptive or risky
- Widespread stories of poor workmanship and failed installations

Financial barriers

- High upfront costs and uncertainty about return on investment
- Concerns about impact on property value
- Low awareness or misconceptions around available grants, subsidies, and loans

While the project identified clear barriers to greener forms of travel - such as poor infrastructure, limited public transport (particularly rural bus services), lack of EV charging points and safety concerns - these were primarily technical challenges that require long-term, systemic solutions beyond the scope of the project. As a result, the focus shifted toward addressing home energy and retrofit-related barriers, where the project was better positioned to generate insights and support meaningful impact.

Another theme that emerged through conversations, particularly in the communities of Brundall and Postwick, around new housing developments—was frustration with planning decisions made by Local Planning Authorities. Residents expressed concern that new build estates were often poorly integrated with their surrounding areas, lacking infrastructure to support walking or cycling. In some cases, estates were described as “cut off,” with no safe, direct routes to nearby shops, schools, or public transport. This forced many households into car dependency, even for short trips, undermining efforts to promote low-carbon, active travel options.

To support inclusive engagement throughout the project, we used a range of methods. These included stakeholder mapping, an equalities impact assessment, and the appointment of a locally based Community Coordinator. We also introduced practical engagement tools, such as interactive boards at community events and a ‘community post box’ where residents could share their thoughts at their convenience. This mixed-method approach allowed us to connect



with a broader cross-section of the community in ways that were informal, accessible, and responsive to local needs.

We were responsive throughout the project, evolving our approach where needed. For example, we noticed a gap in engagement from residents aged under 45. In response, we launched a digital survey targeting this group, promoted through social media and local community networks. We also hosted an online focus group with residents aged 30–45, where participants provided feedback on mock social media posts related to heat pumps.

To support and guide our engagement strategy, we developed seven fictional user personas. We built the personas on insight from real conversations across the seven communities and reflected key demographic groups, motivations, concerns, and levels of readiness to act. The personas became a practical tool for tailoring methods to effectively suit different audiences.

In the next section, we'll explore each engagement method in more detail, including what we used and why.

Stakeholder mapping

We began by working with the District, Local and Parish Councilors in each community and Residents' Associations. We mapped a diverse range of stakeholders across the seven pilot communities to identify relevant community leaders, local organisations and key spaces that residents visited.

We created and maintained a comprehensive stakeholder list, ensuring the diversity of the seven communities was captured and considered throughout. This ensured that we understood which groups we were engaging and which might be missed, so that we could actively focus efforts to reach underrepresented groups.

Diversity, Equity and Inclusion

This project embedded principles of diversity, equity and inclusion (DEI) from the start and throughout. DEI was not a separate strand but a foundational principle, shaping how the project was designed, delivered, and evaluated.

To support equity, we developed an Equality Impact Assessment (EIA) to identify barriers to participation and to guide outreach to vulnerable groups, including young people, individuals experiencing food poverty, people with limited mobility, and individuals facing digital exclusion. For example, in Ormesby and Stalham, we consulted the managers of food banks before speaking with service users to ensure that our discussions were sensitive to their needs. We continually referred to the Equalities Impact Assessment and updated it as the project progressed.

Community Coordinator

To strengthen local connections, we recruited a Community Coordinator, who played a key role in creating and maintaining the stakeholder list, using local Facebook groups to identify active organisations and community leaders. She attended over 30 in-person engagement events across the seven communities and built relationships with residents and businesses, asking questions to uncover local priorities and concerns.

The Community Coordinator revisited several weekly events such as coffee mornings and community lunches and became a recognised and trusted individual. She noted how people who might not have spoken much the first time they met her, often opened up once they recognised her:



“I’d seen a few of the women before, I got a sense they felt they could trust me and open up about their concerns.” (referring to a coffee morning in Stalham early in the project)

Attending in-person events also meant the project could reach people who were digitally isolated that may have missed surveys or questionnaires shared and accessed online. We used language that was familiar and straightforward when speaking with residents. For example, talking about ‘warm and cosy’ homes rather than using terms like ‘clean energy’ and ‘retrofit’. The Community Coordinator shared how phrases and terms like ‘energy efficiency’ sometimes confused residents and was a barrier in conversations. Indeed, this is supported by research from Fleet Street Communications that found “terms such as carbon neutral and net zero are either poorly understood by consumers or polarise opinion.”¹

Throughout the project, we kept residents informed through a series of newsletters, sharing funding information, local case studies and details about upcoming events. We encouraged residents to get in touch and share any ideas, queries or concerns that they had about the project.

Physical engagement tools

To support in-person engagement, we developed and tested a range of physical tools to spark conversations and gather feedback from residents. Hubbub designed an interactive engagement wheel, which encouraged residents to reflect on home energy upgrades at community events. Even though it was only used at events, the Community Coordinator noted it was effective at starting conversations and helped attract attention when setting up in venues such as village halls.

In addition, a community ‘post-box’ was trialed at the Community Gym in Loddon and Chedgrave. This community ‘post-box’ consisted of a sealed box and a prompt question on top, where people could post their responses into a perspex box. The tool aimed to provide a flexible, low-pressure engagement opportunity, allowing residents to fill in note cards and post their thoughts anonymously. The prompt questions were changed during the trial to encourage more responses. While the post-box was a useful experiment, the coordinator at the gym reflected that it may have felt out of place in the gym environment, where people weren’t expecting to engage in that way.

The gym’s opening hours limited exposure, and the tool relied on support from a local contact who was already stretched for time. An improvement to give the tool more visibility in the future could be promotion of the post-box on social media — for example, sharing responses to the prompt questions might have encouraged others to take part.



Image 2 and 3: Two examples of physical engagement tools (engagement board on the left and community post-box on the right) being used in Stalham and Loddon and Chedgrave.

Project survey

Towards the end of phase one, we created an online survey to gather deeper insights into residents' attitudes, motivations, and barriers related to home energy upgrades. We were especially interested in reaching residents aged 25 – 45 who we had been less involved at in-person and online events.

The survey was promoted through targeted social media advertisements on Facebook and Instagram to reach residents in this age category. We asked community contacts to share the survey link on their communications channels and ensured it featured in relevant community newsletters. With a mind on accessibility, we printed physical copies and delivered them to community groups for those unable to complete the survey online.

To further encourage respondents, a £50 Love2Shop voucher was used as an incentive. However, only 45% of respondents requested to be entered into the draw, suggesting limited influence on participation.

In total, we received 150 complete survey responses and collected a range of demographic data, including age, postcode, gender, and housing status. Our questions explored residents' current home energy measures, their interest in home energy upgrades like insulation, solar panels, and heat pumps, and their motivations for and barriers to taking further action. Financial concerns and a lack of trust were commonly cited obstacles, while support measures such as financial grants and expert advice were seen as the strongest motivators. The survey also assessed awareness of existing funding schemes and revealed that friends and neighbours were viewed as the most trusted sources of information.

Despite targeted digital campaigns aimed at engaging younger adults (ages 25–45), the majority of responses came from older residents. The largest proportion of respondents were aged 55–64 (27%) and 65–74 (26%), with just 16% aged 45–54. Responses were segmented into two key age groups: under 55 (47 responses) and 55+ (101 responses), which reflected the overall demographic skew. This highlights a key limitation of the survey: even with financial incentives and outreach strategies, the sample may not fully represent the wider community.

Online focus group

To explore how messaging influences motivation for home energy upgrades, we conducted a 90-minute online focus group aimed at residents aged 30–45. This was to gain better insight into the demographic under-represented in our earlier engagement activities. The session focused on heat pumps and tested elements of a mock communications campaign, assessing which types of messaging resonated most with this audience.

To ensure a productive discussion, we hired an experienced facilitator and carefully selected participants who met specific criteria: homeowners aged 30–45 who had not yet installed a heat pump. Four participants took part and small group size allowed for more meaningful conversation and deeper exploration of key themes. Their shared life stage and similar housing experiences kept the discussion focused and allowed us to explore topics in depth within the 90-minute session.

The focus group proved highly valuable for gathering deeper understanding of this key audience. We gathered rich qualitative insights into the group's motivations, concerns, and communication preferences.



However, as with all focus groups, this method required a significant investment of time and resources for recruitment, and carried the usual risk of participant drop-out. The insights gathered could have been further strengthened with a follow-up session to test refined messaging and build on initial findings.

Who we engaged:

- 76 engagement activities (visits, events, and conversations) were carried out across the project.
- 576 people were reached across seven communities.
- Of which, 314 participants engaged through online events; the remaining 262 were engaged in person.
- Engagement included 11 local businesses.
- Survey – 150 people completed the survey
- Online focus group – 4 people involved in the in depth focus group

In our face-to-face conversations, we primarily spoke with residents over the age of 50, with a greater proportion of women than men taking part (58% women to 40% men, with the remainder preferring not to disclose or other). Recognising a gap in representation from those aged 35–55, we made a concerted effort to reach this group by investing in targeted online survey promotion and hosting a dedicated focus group for people within this age range.

Our engagement approach combined in-person and online methods to gather insights from a diverse range of residents, with targeted efforts to involve underrepresented age groups and ensure a balanced understanding of different community perspectives.

The importance of place

Place played a significant role in shaping residents' attitudes, behaviours, and barriers related to home energy upgrades. The seven communities involved in the project were uniquely different in housing stock, demographics, infrastructure, and levels of social connection. These local characteristics influenced both the types of barriers residents faced and how they preferred to engage with the project.

While some challenges, such as financial concerns and a lack of trusted advice, were consistent across communities, other issues were more place specific. For example, concerns about retrofitting older or heritage properties were raised more often in Swaffham and Loddon and Chedgrave, where such buildings are more common. In communities off the gas network, specifically Marshland St James, Ormesby, and Stalham, residents raised concerns about the high cost of heating oil. These discussions reflected distinct energy-related challenges not faced by communities with access to mains gas.

Place also shaped the dynamics of community engagement. In locations like Eaton and Postwick and Brundall, the presence of active Residents' Associations and Parish Councils helped spread awareness about funding opportunities and events. In these areas, trusted networks reduced concerns about scams, as community members were able to validate flyers and information through familiar local channels.

In contrast, in Marshland St James, the smallest of the communities, it was remarked that that outside of the village hall there was no pub or other community facility, and the village's linear layout sometimes meant there were less opportunities to interact, outside of organised events or through groups like the school. As a result, residents in Marshland St James reported a stronger fear of scams and a greater sense of isolation, making outreach more difficult.

Place-based networks also influenced participation. Communities with more active local organisations boosted survey response rates by sharing the link through well-established and



trusted communication channels. For example, 22% of all the survey respondents were from Ormesby St Margaret and Hemsby where the Chair of the Parish Council was proactive in promoting the survey.

Engagement preferences also differed by location. Some residents responded well to informal drop-ins like coffee mornings, while others preferred formal presentations at regular meetings of local groups and associations.

The insights into the influence of place were central to shaping the project’s engagement strategy. They informed the development of tailored community profiles, user personas, and stakeholder maps—ensuring that approaches were rooted in the specific contexts of each location.



Phase One: Key insights

We know residents face a range of barriers to engaging with greener travel, home retrofit and energy efficiency improvements.

Some barriers, such as limited awareness of the financial support available and widespread fear of scams, were consistent across all communities. Others were more location specific. For example, concerns about the return on investment and payback periods for clean heat technologies were particularly prominent in Eaton, Marshland St James, and Stalham. The table below outlines these barriers, with further detail provided in the sections that follow.

By examining these barriers through a behavioural lens, we can better identify where interventions are likely to have the most impact. Bridging knowledge gaps, strengthening trust in providers, and ensuring that financial support is clear, accessible, and well-communicated will be critical to increasing community uptake of retrofit measures.



Energy: Overview, barriers and places they related to

Table 1: Key barriers identified, where they were identified and their prevalence
Key:

-  Barrier seen in this community
-  Barrier mentioned frequently, more prominent in this community.

Barrier	Brundall Ward	Eaton	Loddon & Chedgrave	Marshland St James	Ormesby	Stalham	Swaffham
Knowledge barriers:							
Lack of access to clear, unbiased advice							
Low awareness of retrofit options							
Lack of knowledge of how to upgrade heritage properties							
Trust and misinformation barriers:							
Fear of scams and a skepticism of energy companies							
Negative assumptions about retrofit and mistrust of installers							
Financial barriers:							
High upfront costs of home energy upgrades							
Concern over time taken to get a return on investment							
Uncertainty about the impact on property value							
Lack of awareness around grants, subsidies and loans							



Knowledge barriers

Key finding: *There is a clear need for accessible, well-signposted energy efficiency information that is tailored to individual circumstances. Simplifying access to advice could help overcome uncertainty and empower more residents to take action.*

Low knowledge and access to simple, trusted advice

While general awareness of retrofit options was relatively high across communities among the people spoken to, there was a strong desire for more detailed, tailored information to help them take action. One of the most consistent barriers to retrofit adoption was a perceived lack of accessible, impartial, and tailored advice. This issue emerged strongly in Stalham, Brundall, and Ormesby, but was also reported across all seven communities and age groups.

Many residents expressed a desire to improve their homes but didn't know where to begin or who to trust. At in-person community engagement events, such as coffee mornings and drop-in sessions, this theme was repeated often. As one woman in her 60s from Stalham shared:

“My dream is to have a nice, warm, cosy home but I have no idea where to begin.”

A couple in their 50s, also from Stalham, echoed this sentiment:

“We sought advice on replacing our oil boiler but were unsure where to go for trustworthy, independent guidance.”

These qualitative insights were supported by survey results. Overall, 20% of respondents identified lack of knowledge and trust as a significant barrier. Among those under 55, this was slightly higher at 24%, compared to 21% among those aged 55 and over.

This theme was also reflected in our online focus group of four women aged 25–35. They described feeling “overwhelmed” and “undecided” about home energy improvements. They emphasised the need for information from a “trusted source,” which they defined as coming from the council, friends, or neighbours.

These insights underscore that although interest in home energy improvements is widespread, confusion, lack of trusted guidance, and uncertainty about how to begin continue to pose significant barriers to action.

Lack of knowledge of how to upgrade heritage properties

One notable—but less frequently mentioned—barrier was the lack of accessible retrofit guidance for heritage properties. At the project launch event, one resident shared:

“Living in a listed building, I've not been able to find much information online [...]. when I see advice, I think it doesn't apply to me.”

For example, residents in Loddon, Chedgrave, and Swaffham, where heritage properties are more common, frequently raised questions about how to upgrade older homes without compromising their character or violating conservation rules. But this sentiment was also echoed in communities like Ormesby and Marshland St James, where many residents still rely on oil heating.



Because no two homes are exactly alike, especially with older properties, generic retrofit advice can sometimes feel irrelevant. During the focus group, one resident shared that she frequently felt overlooked by mainstream messaging that didn't reflect her specific housing needs. This feeling was echoed by others during community events, particularly among those living in heritage or listed homes.

These insights underscore the need for more tailored, house-type-specific guidance, especially for residents navigating planning restrictions or structural challenges. Providing personalised information or greater variety of case studies could play a crucial role in building confidence and empowering more people to take the first step toward making energy efficiency improvements.

Trust and misinformation barriers

Key finding: *There was widespread mistrust of unknown tradespeople, installers and energy companies across the seven communities. The mistrust is often due to awareness of rogue firms and scams that have left many residents feeling sceptical or even fearful of taking steps towards upgrading their homes, including being wary of communications about it. Many trust their friends and family above other sources, followed by charities, over companies or traditional print and social media.*

Fear of scams and scepticism of energy companies

Energy companies: The project found that scepticism toward energy companies and fear of scams was a barrier preventing residents from engaging with retrofit schemes.

Across all seven communities, residents expressed mistrust in energy companies and funding offers, both in print and digital formats. One resident from Ormesby in her 70s remarked,

“The EON offer looked fake when I saw the leaflet come through the door. I hadn't heard anyone talking about it in my area.”

At engagement events, many residents said they prefer to seek advice from personal networks rather than official sources. Older participants, particularly those over 70, mentioned consulting their children before making home improvements. A Cantley resident shared:

“The only people I trust are friends and family.”

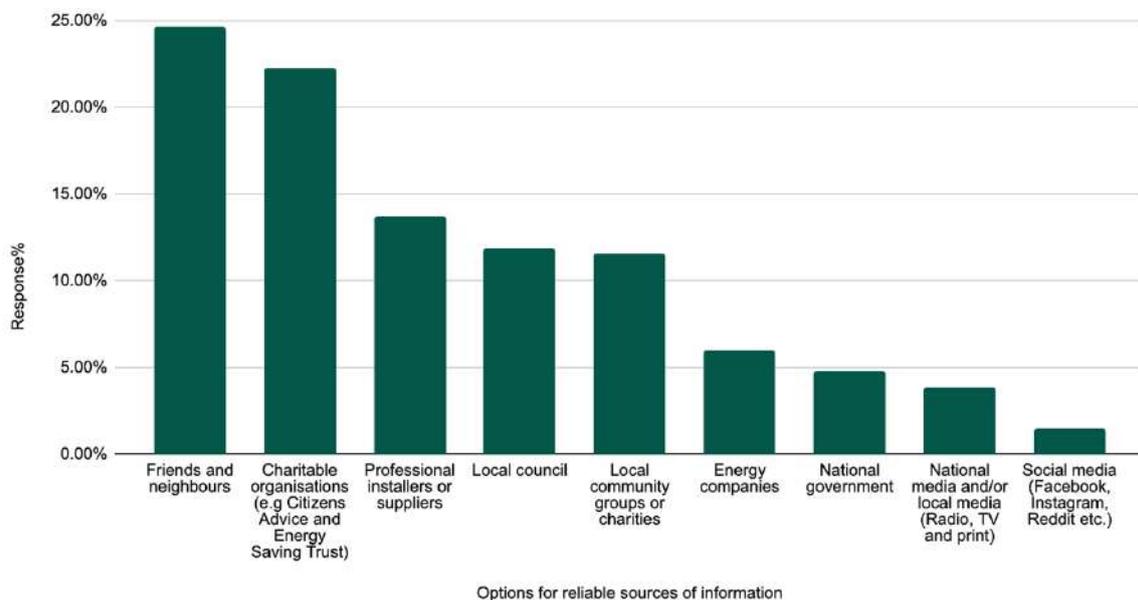
To explore this further, we added a question to our online survey about trusted sources of retrofit advice. We asked respondents to choose who they trust as reliable sources of information when making their home more energy efficient and/or adopting retrofit technology. The results reflected what we'd heard in our in-person engagement. Out of the 150 survey respondents, 25% selected friends and neighbours, 22% chose charitable organisations, while only 5% trusted energy companies and just 4% trusted national media sources (TV, radio, or print) (see Graph 1).

These findings demonstrate the strong reliance on trusted, familiar, community-based sources over commercial or national government messaging. This aligns with Hubbub's earlier research and IPPR's More Than Money report (2023)² which both highlight that people are more likely to act when advice comes from someone they know or a respected local group. In response, phase two of the project tested whether embedding retrofit advice within trusted community structures could help reduce scepticism and encourage action.



Graph 1: Trusted sources of advice for home energy improvements

Which of the following do you trust as reliable sources of information on making your home more energy efficient and/or adopting retrofit technology? (Select your top 3)



Negative assumptions about retrofit and mistrust of installers

Across several communities, there was a persistent perception that home energy upgrades are time-consuming, disruptive, and fraught with problems. At a coffee morning in Brundall, multiple residents referenced the same negative story: a heat pump company had gone out of business midway through an installation, leaving a home in limbo for months. The fact that this story was widely known suggests how powerfully negative experiences, even secondhand, can shape community perceptions and linger over time.

Mistrust of installers was a recurring theme. Residents often shared concerns about poor workmanship or companies going bust partway through a project. These fears weren't just speculative — they were echoed by local businesses as well. Reputable installers described how rogue operators, and low-quality installs had damaged the public's trust in technologies like heat pumps and solar panels. One installer noted that positive word of mouth and local visibility had been key to building trust and winning business. One Brundall-based solar installer commented:

“It's cold calls or adverts on Facebook—that's what causes people not to trust installers.”

Indeed, the presence of a known, high-street solar installer in Brundall was seen as reassuring by residents from both Brundall and Postwick. This highlights the value of trusted local installers, especially those with a visible presence in the community, in helping to counteract scepticism and negative assumptions around retrofit.



Financial barriers

Key finding: *Financial barriers were widespread across all communities and demographics. Young families and older groups saw finance as a particular burden due to affordability and perception of return on investment or home value. Households were either unaware of available funding, or assumed they weren't eligible, despite many saying funding support would help them upgrade their home. As well as providing funding support, communications should focus on raising awareness of existing funding.*

Financial concerns were among the most significant obstacles to home energy upgrades, cutting across all seven communities and age groups. Key issues included the high upfront costs of home energy upgrades, uncertainty about payback periods, doubts over return on investment, and confusion about how improvements might affect property value.

High upfront costs of home energy upgrades

In our survey, 44% of respondents identified financial or funding concerns as the primary reason for not pursuing energy efficiency improvements. While cost was a common barrier for all, it was particularly prominent among two groups: younger adults with families and older residents nearing or in retirement.

Younger adults with families: For many younger residents, especially those with children, home upgrades were seen as something to defer until living in a long-term or “forever” home. This was especially evident in Stalham and Brundall. One parent explained, “There’s no point spending money on big changes if I know I want to move to a bigger house in a few years’ time.” In these cases, spending priorities were focused on short-term needs or saving for future moves, rather than investing in the current property.

Concern over time taken to get a return on investment

Older residents: Among older residents, particularly those over 65, the priority was financial return on investment within a limited timeframe. Many were concerned they wouldn’t see the benefits of retrofit measures within their lifetime. One Eaton resident summed this up candidly:

“I’d like to install more solar, but will I get my money back before I die?”

These findings show that financial barriers are not just about affordability but are also shaped by life stage, housing plans, and perceptions of value over time.

Uncertainty about the impact of home retrofit on property value

Although there is increasing evidence that retrofit improves property value,^{3 4} some residents in Eaton expressed concerns that energy efficiency modifications might make it harder to sell their home. At a local Residents’ Association meeting in Eaton, members shared anecdotes of this happening to people they knew. These insights reveal how financial decisions are closely tied to life stage and future planning.

Clearly, there’s work that needs to be done to overcome this narrative, alongside providing additional financial support, addressing concerns around payback periods and perceived resale risks is crucial. To build confidence, there is a need for more visible success stories, particularly those highlighting financial savings and positive impacts on property value, and frame upgrades as a worthwhile investment for the next generation who might inherit the property as well as the environment.



Lack of awareness around grants, subsidies and loans

The role of financial support

Reducing the upfront cost of energy improvements is key to encouraging action, and financial support through grants, subsidies, or loans plays a critical role. This was reflected in our survey, where one in four **(25%) of respondents** identified access to financial support as the most significant factor that would encourage them to take the first step toward home energy improvements.

Awareness gaps and uncertainty

While awareness of funding schemes appeared relatively high on paper, with only 28% of survey respondents saying they hadn't heard of any schemes, in-person conversations painted a more nuanced picture. Residents frequently expressed confusion about whether they were eligible for support or how to access it. In many cases, even when schemes were known to residents, they quickly dismissed the scheme as not applicable or themselves as ineligible.

For instance, a home energy E. ON grant scheme in Ormesby, delivered in partnership with Great Yarmouth Borough Council, offered fully funded upgrades like air source heat pumps, solar panels, and insulation to eligible households using oil, LPG, coal, wood, or electricity. Yet, when we engaged residents during a WI meeting in Ormesby, very few had heard of the scheme, and many incorrectly believed they were ineligible because they weren't E.ON customers or weren't receiving benefits.

This disconnect between awareness and understanding was echoed in more affluent areas like Brundall and Eaton, where average household incomes are higher. Residents often assumed that grants were only for low-income households, not realising that some support is not means-tested. This highlights a need for myth-busting and better clarity around eligibility for financial support.

Under-promoted schemes

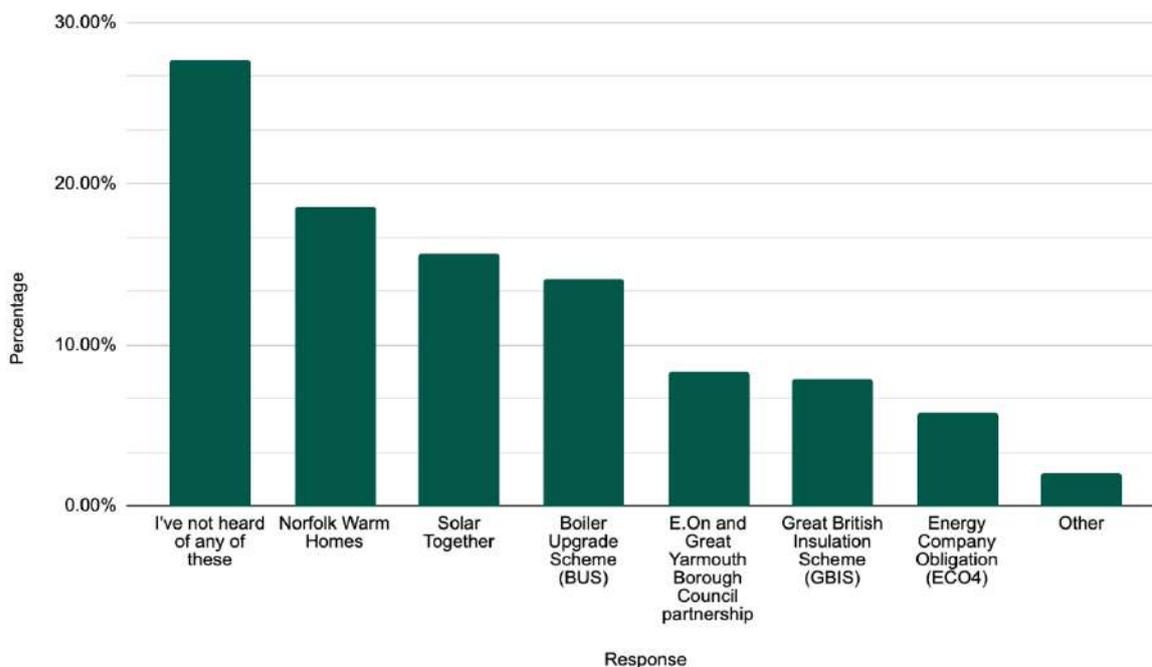
The Broadland Sustainable Homes Scheme, a local loan scheme offering 0% interest loans of up to £5,000 over three years, is another example. Although live during the project, many residents had never heard of it, largely due to limited local promotion. This made it difficult for residents to assess its relevance or potential value for them.

To increase uptake of financial support, more effective communication and targeted local promotion are essential. Simply having funding available is not enough—people need clear, trusted information, delivered in ways that are accessible and locally grounded.



Graph 2: Awareness of funding schemes

Have you heard of any of the following funding schemes and initiatives for energy efficiency or clean energy measure? Please select 'other' to share any scheme you've heard of but not listed.

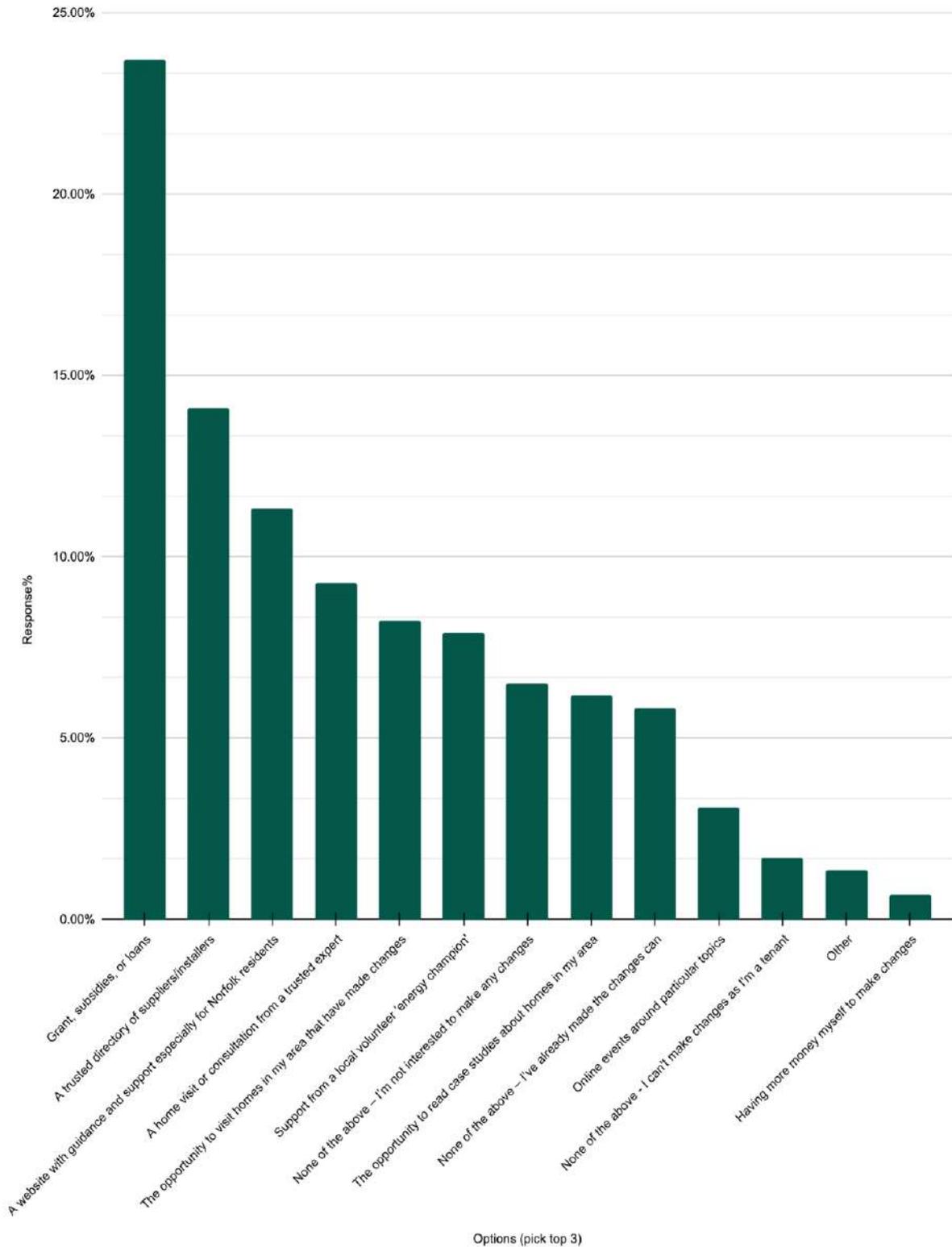


Response	Number	%
I've not heard of any of these	67	27.7%
Norfolk Warm Homes	45	18.6%
Solar Together	38	15.7%
Boiler Upgrade Scheme (BUS)	34	14.1%
E.On and Great Yarmouth Borough Council partnership	20	8.3%
Great British Insulation Scheme (GBIS)	19	7.9%
Energy Company Obligation (ECO4)	14	5.8%
Other: <ul style="list-style-type: none"> “Remove the green energy tariffs on my bill, energy is rationed by the householder did to cost. I have a tumble dryer not so many years ago could afford to use it, now it is a luxury item NET ZERO IS TAKING US BACKWARD” “Net zero is dead, plants, animals and human learn to adapt” “It's a 2-year-old new build so I'm not planning to change anything” “Yes, I have heard of all of them I'm not on benefits so cannot afford anything” 	5	2%



Graph 3: Support households want to make home energy upgrades

What would most encourage you to take the first step to make your home more energy efficient?
(Select the top three options that would most encourage you)



Barriers specific to businesses

Key finding: Local business and tradespeople play an influential role in household energy efficiency and heating decisions, especially when trust is built over time. Engaging these groups is crucial, and they need more incentive to retrain, support managing the complexity of grant schemes and initiatives to increase household willingness to make upgrades and tackle misinformation (as well as evidence of existing demand).

We spoke to eleven businesses from across the county, made up of a mix of plumbing and heating firms, organisations delivering a range of home improvement works (insulation, solar PV, heat pumps) and dedicated installers of solar and heat pumps. The picture painted overall was quite mixed and reflected concerns shared in the communities, as well as highlighting some challenges for suppliers.

Unsurprisingly, they faced their own specific barriers, including being too busy to innovate, administrative challenges with grant schemes, and even scepticism about certain technologies such as heat pumps.

In conversations with local businesses, two common barriers emerged. Firstly, engineers who are busy with current installations for current technology perceived a lack of incentives or support to invest in training, especially for those already well established in their profession. One engineer operating out of Norwich noted,

“We’ve enough boiler installations coming in to keep us busy.”

A second barrier was a hesitancy to work with grant schemes such as the E. ON offer. This hesitancy to use grant schemes and lack of training in retrofit technology discourage businesses from installing retrofit technology and advocating retrofit to their clients. A Managing Director of a local business, commented,

“Grant schemes can take a while to get your head around. There’s lots of paperwork and a narrow criteria.”

The crucial role of businesses and installers

Attitudes and experiences of local businesses are crucial, as their opinions can strongly influence resident decisions. Hubbub’s Home Advantage research with 175 homeowners looking at barriers to making home energy upgrades, found that a known tradesperson (who had built trust over time) was one of the most trusted people to give advice on environmental decisions – over others like neighbours, councillors, or social media influencers.⁵ Therefore, engaging local tradespeople is critical to fulfil a role as trusted messengers that can get households on board with change.

New builds vs older properties

A commonly expressed view among engineers we spoke to was that heat pumps are generally better suited to new-build homes than to older properties. Neil, an engineer operating in South Norfolk, explained,

“Heat pumps are often an easier fit in new builds,” and that “retrofitting in existing homes is expensive and can be disruptive which puts people off.”

While this reflects a practical concern shared by some local installers, it’s important to recognise the challenge of decarbonising existing homes is both unavoidable and urgent. In



their *Beyond Net Zero (2025)* publication, construction engineering firm Max Fordman stressed the importance of designing new homes to minimise carbon emissions throughout their lifecycle.⁶ However, they also emphasised that the greater challenge lies in the existing building stock, calling it *'the real elephant in the room.'* Indeed, 34% of the UK's annual carbon emissions come from existing buildings - a figure that highlights the scale of the retrofit challenge.⁷

In Norfolk, while there are significant plans for new housing developments, the need to upgrade current homes remains critical. According to the UK Climate Change Committee, around half of all homes in the UK will need to be heated by a heat pump by 2040 to meet decarbonisation targets—yet as of 2023, only 1% of homes had made this transition⁸. This highlights the need for practical, scalable solutions that make retrofitting more accessible, affordable, and appealing for homeowners—especially in communities with older housing stock.

Planning regulations and clean-heat technologies in new builds

The visibility—or lack thereof—of clean heat and retrofit technologies in new housing developments was a recurring concern raised by both residents and local businesses. In Marshland and Brundall, two communities that have seen recent housing developments, several residents expressed surprise that many of the new homes lacked visible features such as solar panels or heat pumps. One homeowner in Brundall remarked:

"Not seeing solar panels on all these new homes makes you question why. If the council isn't putting in heat pumps, it puts me off doing it myself."

This highlights an important psychological and motivational barrier: when new builds fail to include low-carbon technologies, it undermines public confidence in their value and necessity. If clean heat solutions are not seen as the standard in new homes, existing homeowners may feel less motivated, or even discouraged, from investing in upgrades themselves.

However, there is a structural constraint at play. Local planning authorities currently have limited power to require low-carbon technologies in all new homes, due to minimum standards being set at the national level through government-controlled building regulations. This creates a technical and policy-level barrier that sits outside the scope of this project.

Nonetheless, it remains a critical area for action. A key recommendation is for local planning departments to continue advocating for changes to national planning and building regulations, pushing for stronger requirements that ensure all new developments are built with integrated clean energy and retrofit technologies as standard.

Businesses awareness of clients' negative perceptions

Businesses also expressed interest in supporting working people to tackle negative perceptions and misinformation of home energy upgrades. One business owner remarked,

"We need to help working people retrofit their homes. Affordability is a major barrier; people think the cost is £25,000 when it's closer to £7,000 now."

To accelerate retrofit adoption, it is essential to both build demand among households and engage businesses, providing them with better training, support for new technologies, and simpler access to grant opportunities, to help play their critical role. The importance of trusted recommendations and advice was commonly heard from residents we engaged with, and installers are often the people most familiar with their clients' heating systems.



This shows the importance of a two-pronged approach of driving demand among residents, while also engaging with suppliers and businesses to make changes to encourage low-carbon heat and power.

Transport: overview, barriers and link to place

Key Finding: *Transport emerged as a major barrier to lower-carbon living, shaped by highly localised infrastructure provision issues such as poorly maintained footpaths, inadequate bus services, limited EV charging points, and safety concerns for pedestrians and cyclists. While these challenges strongly influence residents' travel habits, they require long-term infrastructure changes, therefore phase two of the project focused on energy beyond the scope of the project, which instead focused on home energy efficiency where more immediate and practical interventions could be made.*

The project also explored the barriers residents face in adopting greener forms of travel. Transport proved to be a highly localised issue, with concerns centered on the condition and availability of footpaths, cycle lanes, and public transport. Across all seven communities, cars remained the dominant mode of transport — favoured for convenience, familiarity, and perceived reliability compared to other options.

Barriers to lower-carbon travel were varied and place-based: often rooted in local infrastructure. These included poorly maintained walking and cycling routes, infrequent or impractical bus services, limited access to electric vehicle charging points, and safety concerns—particularly for pedestrians and cyclists. Together, these challenges shape travel habits and make shifting to more sustainable options difficult for many residents.

Lack of accessible infrastructure

Access to maintained footpaths and cycle paths emerged as a common concern across communities. In the more rural areas like Ormesby and Stalham, residents highlighted challenges in accessing nature in surrounding areas, with one middle-aged man remarking,

"We live in the countryside, yet we can't benefit from it."

Another man in his 50s commented on the poor state of local pathways:

"There are good walks, but the footpaths aren't well maintained."

Within the Brundall Ward, footpaths are vital for reaching transport hubs like Brundall Gardens train station and Postwick Park and Ride. We heard from residents that poor infrastructure here limits the use of public transport options, with people feeling forced to rely on cars, even for short journeys. The lack of accessible and well-maintained paths not only affects connectivity but also impedes broader adoption of low-carbon travel alternatives like walking or cycling.

Inadequate bus services

Bus services were criticised in all the communities except in Eaton and Loddon and Chedgrave, where they were praised. Issues raised include infrequent services,



inconvenient routes that don't meet people's needs, and long journey times, making the bus an unattractive option. Residents of all ages spoke about buses, but it was amongst older people that it was the biggest concern. Older residents expressed significant concerns about the lack of viable alternatives when they can no longer drive. One woman in her 60s in Brundall said she would likely have to move house when she was no longer able to drive,

“I don’t feel I could rely on the buses around Brundall to get to where I needed to go.”

Electric vehicles

Electric vehicles (EVs) were mentioned only occasionally during the insight gathering phase, and primarily by a small number of residents aged 45–55 from the relatively more affluent communities of Loddon, Chedgrave, and Eaton. The limited discussions surrounding EVs may reflect both the financial ability of residents to replace their vehicles and the lower relevance of EV-related issues in less affluent areas. Among those who did raise the topic, key concerns included the lack of sufficient public EV charging infrastructure and the high cost of electric vehicles, both of which were seen as barriers to broader adoption.

One man in his 50s from Loddon highlighted these frustrations within the wider context of perceived government inaction on climate and energy policy,

“We invested heavily in an electric vehicle, [...] but the public charging network has been a nightmare. It's not as good as it should be. It's made us hesitant to invest in other environmental technologies if the Government can't sort out basic infrastructure.”

Discussions about electric vehicles highlighted concerns around affordability and inadequate charging infrastructure, which in turn appear to have reduced trust in the government’s commitment to sustainable transport.

Perceived safety concerns

Safety was a recurring theme in discussions about walking and cycling. Communities in Swaffham, Stalham, Eaton, and Loddon & Chedgrave noted the lack of safe, dedicated routes as a barrier to walking and cycling, especially in the context of walking and cycling to school. Parents and younger residents, such as those on the North Norfolk Youth Advisory Board, identified safer cycling routes to schools as a top priority. At the Mancroft Advice Project (MAP) Youth Climate Event in Stalham, young people stressed the importance of ‘dedicated bike lanes and safer pathways’ to encourage cycling.

Community Transport and social stigma

While community transport fills some gaps, the project found that it was stigmatised and underused. Community transport services were praised in Stalham by many retired people we spoke to as being “an essential lifeline” and “helpful in addressing gaps in public transport provision.” However, a minority of residents in Ormesby, Stalham and Brundall also shared how community transport was often perceived as only there to serve older or vulnerable people, and against the social norm for younger, more physically mobile residents to use the services. This social stigma discourages others from using these services, limiting their potential impact.



Transport barriers noted, but energy focus prioritised

The transport findings reveal a complex web of local infrastructure and behavioural challenges that make shifting to lower-carbon travel difficult. While residents voiced genuine concerns, ranging from poor maintenance of footpaths to limited bus coverage, these barriers were often technical in nature and beyond the remit of this project. Community insights were therefore shared with relevant transport authorities to inform future planning. Meanwhile, the project prioritised action on home energy efficiency and retrofit, where more immediate and practical interventions could be made to support residents and drive progress towards net zero.

User personas

Characterising residents and developing user personas

As part of the project, seven fictional user personas were developed to reflect key demographic profiles and common attitudes toward home energy improvements. These personas were shaped through direct engagement with residents across the seven communities and were designed to highlight motivations, barriers, and levels of willingness and ability to take action.

The personas offer valuable insight into how different types of residents might respond to retrofit messaging and support. They can be used as a practical tool to inform future communication and engagement strategies by illustrating typical needs and preferences. While personas are helpful in providing structure to qualitative insights, they should be used as illustrative rather than definitive representations. They are not meant to capture the full complexity and diversity of residents and should be treated as evolving tools that can be refined as more engagement and feedback are gathered over time.

One limitation of the persona development was the underrepresentation of adults aged 25 to 45. Despite targeted efforts through surveys and a dedicated focus group, less data was gathered from this group compared to residents above the age of 55. Consequently, personas such as Rachel (32), Amina (41), and Martin (45) are slightly less developed than those based on older residents, such as Dorothy (78), Margaret (68), and Alan (58), who were better represented in project engagement activities.

A summary of the personas, grouped by motivation, willingness, and ability, is included below, with full profiles provided in the appendix.

In summary, while personas offer useful insights and a starting point for designing tailored approaches, they cannot replace the need for ongoing, inclusive engagement that captures the full range of community experiences.



Table 2: Fictional user persona summary

Persona	Motivation	Willingness	Ability	Support they need
Rachel, the Working Parent (35)	Concern for energy costs, family needs, unaware/unmotivated	Limited willingness (unaware, unmotivated, busy, struggling financially)	Low ability (renting, financial struggles, limited time for research)	Needs simple, quick solutions; interested in grants, wants events linked to school, feels support isn't easily available
Amina, the Social Advocate (41)	Concern for positive social impact, climate change	Moderate willingness (busy, wants info accessible on her phone)	Moderate ability (financially constrained but motivated)	Interested in home visits, prefers mobile-friendly info, wants subsidies in one place, motivated but needs tailored resources
Liam, the Strategic Planner (54)	Long-term savings, increasing property value, reducing environmental impact	High willingness (motivated, keen to invest in efficiency)	High ability (financially secure, forward-thinking)	Needs clear evidence on payback, prefers in-person visits, meticulous planner, overwhelmed by too many options
Alan, the Sceptic (58)	Distrust of green technologies, prefers traditional retrofitting e.g. insulation	Low willingness (sceptical, resistant to change)	High ability (financially capable, independent)	Needs case studies, prefers traditional methods like loft insulation, requires reassurance and alignment with his values
Margaret, the Legacy Builder (68)	Environmental responsibility, leaving a legacy for future generations	High willingness (motivated to act for environmental reasons)	High ability (financially secure, willing to invest)	Needs clear guidance, prefers talking to trusted experts, slightly unsure of what upgrades are best, open to home visits
Dorothy, the Older Homeowner (78)	Comfort, security, making home cosier	Moderate willingness (concerned about disruption, but motivated by comfort)	Low ability (fixed income, prioritizes comfort, worried about disruption)	Needs low-cost, simple options, case studies, and reassurance about minimal disruption, focuses on comfort and cosiness



Phase Two: Interventions

Based on the insight learnt in phase one, in phase two, the project focused on trialing interventions to test how different activities could help residents feel both willing and able to retrofit their homes.

Table 3: Summary of interventions designed to address key barriers in phase

Barrier	Intervention to address barrier	Community tested in	How well did the intervention work?
Lack of positive local examples of retrofit to inspire residents. A negative bias towards retrofit (e.g. expensive, disruptive to install, not worth it).	Developing and sharing of local case studies*	Marshland St James, Postwick (Brundall Ward), Eaton	Finalising case studies took a while as communities were often stretched for time. Would recommend more resource be put into promoting the case studies that were created.
Confusion about the suitability of retrofit technologies; need for clear, unbiased advice.	Energy Champion initiative providing trusted, local information Open Homes - Visit a Heat Pump initiative	Eaton (with the Our Power Energy Champion project)	The Energy Champion initiative had good feedback across Eaton with many residents supported.
Negative perceptions of heat pumps (e.g. noise, space requirements). Need for peer-led support.	Open Homes – Visit a Heat Pump initiative	Eaton	Open Homes was experienced by a lot less people than other interventions but those who did take part shared that it was helpful to see home energy upgrades in person.
Confusion around funding schemes; scepticism toward energy companies; fear of scams.	Funding event explaining financing options in a trusted, local setting. Energy Champion initiative.	Ormesby, Stalham, Marshland.	Funding events were well received by residents, particularly above the age of 55 who made up most of the attendees. There were higher turnouts at events that were promoted by trusted local community members.
Concerns about retrofitting heritage properties and need for tailored advice	Heritage Property Retrofit Event	Swaffham	A successful event with useful feedback from attendees. Hosting an event with experts and real-life case studies was praised.
Difficulty accessing understandable, motivating information about retrofit*	Homes Fit for The Future Focus Group to shape messaging*	All communities	This intervention was helpful in providing in-depth insight into communications and messaging.
Difficulty visualising energy loss and savings in the home	Thermal Imaging Camera Loan Scheme	Marshland St James, Stalham, Swaffham.	Pilot groups reported that images of heat leaking from their homes were a nudge to act. There were some technical challenges with the cameras, linking to resident devices and resistance to download the app. So, consideration should be given to an all-in-one camera solution.



* To focus efforts in phase two, testing was focused on the energy events and focus group interventions, to delve more deeply into what information would help residents understand and engage on energy upgrades. However, the other interventions were also assessed to draw comparison and understand the impact of existing initiatives.

Developing local case studies

Key Finding: Locally led retrofit case studies proved to be a low-cost, effective way to build trust, raise awareness, and counter negativity around home energy upgrades. By showcasing real experiences in familiar community settings, the case studies made retrofit feel more relatable and credible—especially in areas with low confidence or exposure to low-carbon technologies. Future case studies should consider long-term impacts and a range of media formats.

One key intervention was the development and sharing of local retrofit case studies aiming to build trust, raise awareness, and overcome negativity bias around retrofit technologies. To test this intervention, we supported community groups to write up case studies of retrofitting that had taken place in community spaces including heat pump and solar installations at Postwick Village Hall and solar panels and a wind turbine at Marshland Hall.

Case studies of home retrofit were also shared by two Eaton Residents at the Eaton Residents' Association AGM. We worked with the local Parish Councils and Resident Associations to create a clear case study template which local groups could complete and display in order to share their retrofit journey with other residents in their community.

Feedback on the case studies were positive: in Marshland St James, one parish councilor shared that the case study board on display in Marshland Hall shared information about the home energy upgrades that people hadn't heard before.

At the Eaton Residents' Association AGM, where the two domestic case studies were presented, someone remarked how they *were* "... surprised by the results of the heat pump" whilst another attendee shared that she had *"learnt a lot from the talks today"*.

One resident, who shared his experience of installing a heat pump, told us he wanted to

"Make heat pumps more tangible and appealing to people. [...] There's been lots of bad press (about heat pumps)."

Research from the Sustainable Energy Authority of Ireland supports this, highlighting the role of "peer effects" in local communities. The research found that people are more likely to pursue retrofit after seeing neighbours do so.⁹

The case study template proved valuable in supporting already stretched community groups, as it provided a clear structure and made it easier for them to share their stories. Additionally, the case studies felt authentic and credible because they were rooted in personal experiences.

In future, we would begin collecting case studies earlier in the project to allow more time for sharing. We would also build a process for following up with contributors to understand the longer-term influence of the case studies. Alternative formats for the case studies could also be explored. For example, using short videos or social media content, to reach a wider audience and enhance engagement.



Developing local case studies are a cost-effective way to increase the awareness of home retrofit and its benefits. They are especially valuable in communities with low confidence in retrofit and limited exposure to low-carbon technologies.

Energy Champion initiative

Key Finding: Placing trained, trusted individuals within communities—like local Energy Champions—appears to boost resident confidence and understanding of home energy improvements. Early results show the model makes retrofit advice accessible and relatable. Success depends on careful recruitment and sustained funding to support and scale the role, so this potential should be explored further across Norfolk.

Insights revealed that residents valued advice from trusted sources like friends, family, and neighbours, and often found retrofit topics confusing or overwhelming. There was also notable scepticism around some funding schemes. In response, we explored whether a trained local “Energy Champion”—someone embedded in the community with specialised training on retrofit and energy-saving—could help build trust, improve understanding, and increase willingness to adopt energy-efficient measures.

To pilot this approach, we partnered with Our Power’s “Neighbourhood Energy Champions Project”, a community-led initiative funded by Norwich Climate CIC and supported by the Norwich Climate Commission. The project focused on training respected community members in several Norwich neighbourhoods to act as Energy Champions.

Through this partnership, we helped identify Fred*, a resident of Eaton who was enthusiastic about supporting local efforts. After completing a City & Guilds-accredited training course, Fred began working as an Energy Champion in his local area, dedicating eight hours a week over the past eight months. He now runs weekly ‘Energy Surgeries’ at the local library, offers one-to-one advice on home energy upgrades, and shares his personal experience with heat pumps to support residents considering similar technologies.

Fred has also conducted several home visits, helping residents understand and compare installation quotes. His consistent presence has made him a familiar, trusted figure in the community, and he has since joined the board of Our Power to help scale the initiative across Norfolk.

Although the project is ongoing, early results suggest that the Energy Champion model has had a significant positive impact. Feedback from Our Power, residents, and Fred himself indicates that having a local, trained, and approachable person available has increased residents’ confidence and made retrofit conversations feel more accessible and actionable.

That said, Our Power also identified a key challenge: finding the right people to take on the role. Building a team of six trained Energy Champions took several months, underlining the importance of careful recruitment. The role is paid and dependent on external funding, and compensating Champions fairly for their time and expertise has proven vital to the model’s success.

As a result, we recommend that local authorities formally recognise and support the Energy Champion model. Continued investment will be crucial to sustaining and expanding the initiative.



In summary, early evidence suggests that placing trained, trusted individuals within communities is an effective way to increase engagement and empower more people to take action on home energy improvements. The Energy Champion model holds strong potential and should be explored further across Norfolk.

NESTA 'visit a Heat Pump' Open Homes Initiative

Key Finding: In-person visits through the Visit a Heat Pump scheme helped build trust and shift perceptions of heat pumps by offering real-life, peer-led experiences—but the model's impact was limited by low host availability, privacy concerns, and practical barriers. To reach more people, these visits should be complemented by alternative formats like local case studies, which offer a more accessible and scalable way to engage residents. Open home initiatives might be even more impactful if run by a knowledgeable energy champion who builds trust overtime.

One key barrier to retrofit, revealed in phase one was the scepticism about heat pumps - particularly perceptions that they are noisy, bulky, or only suitable for certain homes, alongside cost concerns.

We wanted to test whether the ability to visit heat pumps in people's homes might help to overcome negative perceptions and build trust in retrofit technologies.

Therefore, we collaborated with NESTA's national VisitAHeatPump.com initiative, launched in 2024, which connects curious residents with local heat pump owners for informal, in-home visits. Users simply search by postcode on the online platform, find a local heat pump owner, and book a visit. Unlike commercial pitches, this peer-to-peer model aims to build trust by offering honest, informal conversations, helping to address the scepticism towards energy companies identified during phase one. As part of the project, Energy Champion Fred registered his home and hosted visitors on selected weekends.

NESTA's national evaluation showed that visits tended to have a positive impact, 79% of visitors could imagine a heat pump in their own home after a visit, up from 21% beforehand (NESTA, 2024). Fred's feedback echoed this: guests appreciated being able to "*see, touch, and listen to the heat pump*", often commenting that the technology was "*quieter and more compact than they'd imagined*".

This intervention leverages the "social circle effect," as identified by [UKERC \(2024\)](#), which argues that people are more willing to adopt low-carbon heating if they know someone who has already done so. Encouraging the sharing of personal experiences with retrofit technologies could be a powerful tool for growing acceptance and demand across communities.

Challenges with 'Visit a Heat Pump'

While the 'Visit a Heat Pump' initiative offers valuable, real-life exposure to clean heat technologies, several challenges limited its reach and impact across the seven communities.

Currently, only one host, Fred in Eaton, is available locally, compared to just 25 hosts across the whole of Norfolk. This highlights a clear opportunity for local authorities and partners to scale the scheme by recruiting and supporting more volunteer hosts in different areas.



Fred also raised practical challenges. The scheme relies heavily on the availability and flexibility of hosts, which can lead to frustrations when visits are cancelled last minute or when guests do not show up. He also noted that the model may not appeal to everyone, due to privacy concerns and a reluctance to have unfamiliar people in your house, *“I get that it’s not for everyone.”*

Trust plays a critical role in overcoming these barriers. Fred shared the story of Sandra, a resident curious about whether a heat pump would be suitable for her home. Before inviting Fred for a home visit, Sandra spoke with him multiple times at the weekly energy surgery at the local library. *“Our chats helped her to feel comfortable to have me in her home, I think.”*

This example underlines how trust is built gradually through consistent relationship-building and having a local presence, therefore having open home initiatives run by known energy champions may be more effective than those run by other residents.

These findings were echoed in broader engagement sessions, where residents expressed hesitancy about visiting strangers’ homes or hosting others themselves. For those less comfortable with in-person visits, case studies and stories shared by local residents can offer an accessible alternative. Promoting case studies can be an effective and often more cost-effective way to inspire interest and build trust.

With better coordination and expanded reach, Open Homes initiatives have strong potential to drive local interest and uptake of retrofit measures. However, it's important to recognise that people engage with initiatives in different ways. While in-person experiences—such as NESTA’s *Visit a Heat Pump* scheme—can be highly effective, they may not suit everyone due to personal preferences, privacy concerns, or time constraints.

To ensure inclusivity and wider impact, alternative formats like case studies should also be prioritised. These can be shared through display boards in community centres, local newsletters, or social media pages, offering accessible and relatable insights for those less comfortable with home visits.

Energy drop-in events – Marshland, Ormesby and Stalham

Key Finding: Local drop in events are an impactful way to engage residents in home energy upgrades, and most effective when they offer face-to-face advice, partner with experts and known local groups, are well promoted and take place in local venues at flexible times – to build trust and increase attendance. However, they can be resource intensive and require lots of promotion.

Insights from phase one highlighted a strong desire among residents in all seven communities for in-person support to better understand their energy use, improve home energy efficiency, and navigate complex funding schemes. Survey responses highlighted a lack of trust in online information, and conversations at community events consistently pointed to a desire for face-to-face engagement with knowledgeable experts.

To address this, three energy drop-on events were organised in Marshland St James, Stalham, and Ormesby. These events attracted a total of 124 attendees, with the event in Ormesby drawing the largest crowd at 59 attendees.



The events were designed with accessibility and relevance in mind, by partnering with trusted organisations, held in familiar community venues and well promoted to encourage participation.

What worked well

1. Localised promotion significantly increased turnout

The significant success of the Ormesby event can be directly linked to the strong promotional campaign led by Councillor Geoff Freeman and the Community Coordinator. This included the door-to-door delivery of 682 leaflets, Facebook group posts, posters in local hubs and a press release. This wide-reaching, community-focused effort ensured strong visibility and resulted in the event's impressive attendance and 15 energy grant referrals—making it E.ON's most successful event of this kind to date.

Both the Marshland and Stalham events had a shorter lead time and less intensive promotion. In Marshland there were 40 attendees and 25 at the Stalham event, including six sign-ups to the Priority Services Register after conversations with the North Norfolk Energy Officer. Attendees at the Stalham event noted how they had seen the event poster outside the town hall that morning, highlighting that even low-cost outreach can be effective when well-placed and visible.

2. Partnering with trusted organisations and local leaders added credibility and boosted turnout

Collaborating with established groups such as Norfolk Warm Homes, E.ON, local councils, and Community Action Norfolk gave the events a strong sense of legitimacy and trust. In Marshland St James, the Beat Your Bills initiative brought together a wide range of partners—including the police, health services, DWP, and Community Action Norfolk—to provide advice not only on energy bills and access to funded efficiency improvements, but also on benefit entitlement, crime prevention, and wellbeing support. This broad, multi-agency model tapped into well-established community networks and gave people a variety of reasons to attend.

By offering this kind of wrap-around support, events didn't just address energy efficiency—they also helped tackle loneliness, provided health and safety guidance, and gave experts a chance to signpost residents to other services. This practical, "one-stop-shop" approach proved more effective than events with a narrower focus.

The value of partnership was further reinforced by comparison. For example, a Climate Literacy session in Stalham, which lacked strong local collaboration, drew just one attendee. This contrast highlights the importance of working with trusted local organisations to maximise community engagement and relevance.

3. Expert presence increased clarity and built trust

In Ormesby, attendees had the opportunity to speak directly with energy experts and E.ON representatives about grant schemes that many previously found confusing. While there was initial concern that residents might be suspicious of an energy supplier's presence, the event was a success, with attendees appreciating the opportunity for clear, trusted advice. A follow-up survey completed by 10 attendees found that 70% rated the event 5 out of 5 for usefulness, and one resident commented: "When are you doing it again? It was so helpful."

Having backing from Norfolk Climate Change Partnership and the local council also reassured attendees that the information provided was impartial and reliable.



4. Familiar, central venues encouraged attendance and accessibility

All three events took place in community-embedded venues such as parish halls and the town hall in Stalham. These locations made the events feel approachable and accessible. In Stalham, several attendees were ‘walk-ins’ who had seen signage on the day, reinforcing the value of using local, trusted venues that the community are familiar with.

5. Timing mattered – both seasonally and during the day

Scheduling events in the winter months, such as Ormesby in January 2025 and Marshland in February 2024, aligned with residents’ heightened concern around heating costs, making the events more timely and relevant. In contrast, the Stalham event held in summer saw lower engagement—likely due to reduced urgency around energy bills. Additionally, the Stalham event took place during standard working hours, which may have limited accessibility. Learning from this, the Ormesby event ran from 2:30–7:00 PM, offering greater flexibility for those working or with daytime commitments, and helping to boost attendance.

In future iterations, we recommend allocating sufficient lead-in time for event planning and promotion, especially in areas with weaker existing networks. The success of these drop-in events underscores the value of direct, visible, and locally endorsed engagement, and shows that spending project resources on leaflets, posters, and press can be crucial to ensuring good turnout. While budget and resources may not always allow for widespread promotion, hosting locally and low-cost options like posters and using trusted messengers can still be impactful.

Most importantly, the events demonstrated that face-to-face interaction in trusted settings is essential for empowering residents to take the next step in improving their home’s energy performance. Partnering with local figures and organisations, using familiar venues, and timing events effectively are all key ingredients for successful community engagement.

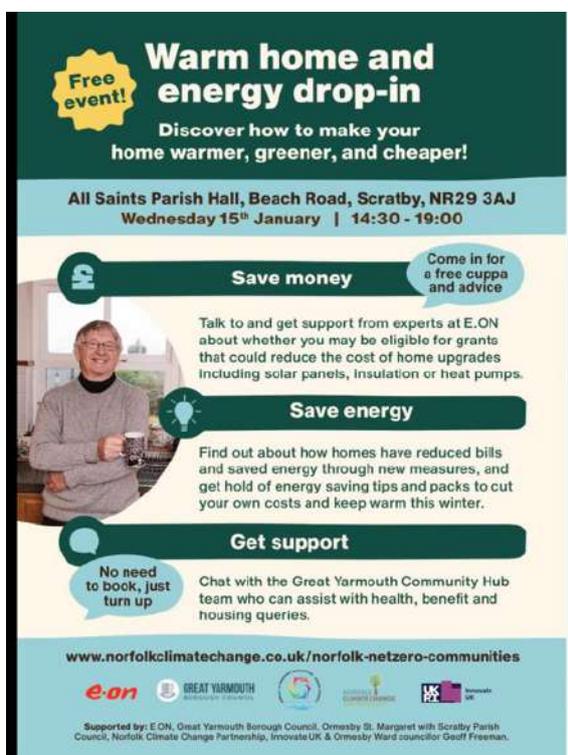


Image 4: flyer for the warm home and energy drop-in in Ormesby.



Image 5: flyer for the energy and environment drop-in in Stalham.



Heritage Property Retrofit Event

Key Finding: *The event highlighted there is a greater need for more education around heritage properties and what owners can do to make them more energy efficient. Many owners wrongly assume that due to being listed or being in a conservation area prevents them from acting. They experience the same non-technical barriers that the general population does, but the specialist technical solutions that they require add an additional layer of complexity. By using a variety of expert speakers it is possible to highlight what is possible, having a mix of speakers is key. Having speakers that can talk about working on large scale projects is helpful but having examples where specialists have made changes to domestic properties is key.*

It became evident throughout the project that Norfolk residents living in heritage or traditionally built properties experienced significant challenges in retrofit or making these more energy efficient. Part of this is due to additional complexities that these types of properties present as they do not often suit modern retrofit technologies or the solutions are more costly. For example, solid walls present a significant challenge in insulating as they require external cladding to be added. Many of these properties are either listed or are located in conservation areas, and this creates misconceptions that no action can be taken. Main residents report that conservation officers in their local planning authority can be a barrier to acting on these types of properties. Work capacity and openness to retrofit solutions were often cited as reasons why residents perceived they could not take action.

To test whether greater education and knowledge of residents and professionals could help address these barriers, a specialist event focused on traditionally built properties was organised. This was held in Swaffham which has a significant concentration of buildings of this type within its conservation area. The town has been working with English Heritage for a number of years on a programme of activities to improve its conservation area. The principle of the event was to get expert speakers to outline what was possible and the actions that could be taken.

Eighty residents and professionals attended on the day and heard from speakers representing English Heritage, the National Trust and a specialist architectural practice. This was well received and created a balance of big technical projects to help educate professionals and smaller domestic projects so that residents could visual it being done to their properties. One of the speakers was also the owner of a heritage property themselves, and they were able to tailor examples and answer questions for residents based on their own experience. This was extremely powerful and really helped demonstrate that action was possible.

Homes Fit for the Future: Focus Group

Key Finding: *Message testing with working age households identified preference for positive, practical messaging focused on co-benefits such as warmth and increased home value, supported by secondary environmental messaging but environmental messaging alone is not enough to prompt action. Barriers faced include cost, disruption, and limited time, making digital and integrated community engagement delivered by trusted sources more effective than traditional events.*



One of the priorities for phase two of the project was to run a focus group with residents aged 35–54, to deepen our understanding of how to encourage Norfolk residents to adopt home energy improvements and clean technologies, particularly heat pumps.

We chose to speak with homeowners in this age bracket as we'd heard the least from this group in our insight gathering phase. The 90-minute session built on insights gained in phase one, aiming to explore residents' motivations, barriers, and preferences around messaging, communication strategies, and support methods.

This focus group confirmed many insights from phase one while filling important gaps around the preferences of the 35–54 age group. It reinforced the need for positive, practical messaging from trusted sources, the importance of showcasing real-life experiences, and the challenge of engaging busy families through traditional in-person events.

The focus group discussion covered participants' stage in adopting improvements, their knowledge of green technologies, and their reactions to various messaging and intervention examples.

Key findings revealed a low awareness of green technologies, financial and disruptive barriers to upgrades, and a preference for positive messaging and learning from the experiences of other homeowners.

Participants were primarily motivated by environmental concerns, reducing energy bills, increasing comfort, and the need to replace existing systems. The most significant barriers that were discussed were upfront costs, potential disruption, and uncertainty around new technologies.

Similarly with insights from phase one, participants expressed a clear preference for advice from trusted sources, preferring advice from local councils over retrofit installers, who were perceived as potentially sales driven. One participant noted getting advice from a retrofit installer could lead to it *“becoming a sales opportunity.”*

Reflections on messaging

Participants preferred positive messaging that highlighted the co-benefits of home energy upgrades, such as having a constantly warm home and increasing property value as well as making an environmentally friendly choice, represented in examples two and four (Appendix 5). These were seen as more appealing than negative messaging that implied participants were "getting behind" or "losing out" by not upgrading, demonstrated in example one.

Environmental motivation (with caveats)

While environmental concerns were a key underlying motivation for considering upgrades, the focus group found that this motivation alone was not enough to prompt action. The example of social card three, which directly appealed to environmental motivations and explained the functioning of a heat pump, was the most unanimously preferred. However, participants also appreciated messages that linked environmental action with other benefits like increased property value (example two). This supports Hubbub's other work which often finds that environmental messaging can work well as a secondary message to support a primary message focused on other co-benefits such as health or cost saving.

Tone of voice

Tone of voice also mattered. Participants disliked messaging that felt patronising, anxiety-inducing, or too directive and instead wanted to be informed and guided. Example one with the messaging *“modernise your heating. Get a heat pump and be ready for the phase out of*



gas and oil” was considered “anxiety-inducing” and too didactic. The use of imperative forms and exclamation marks on certain social cards was generally not liked.

Methods for engagement

Digital engagement was strongly preferred over traditional in-person events, primarily due to busy family lives and time constraints. As one woman put it

“...life with kids, I have lots of other things happening.... and so, it would just be a challenge for me to fit it (events) in around everything else, whereas I can just scroll to a website when I have half an hour waiting for the train, or whatever.”

However, participants noted that in-person engagement could be effective if it was integrated into things they were already attending like school activities or community events, rather than something requiring a special trip. One woman shared the example of speaking to someone about hedgehog protection at a wildlife charity stand at her daughter’s gymnastics class and how this worked well because she was already there so had five minutes spare.

"I wonder if it was linked to something that people would be going to anyway, like that might make it more, you know, like event[s] that you might take your children to if there was the opportunity to maybe talk to someone you know, somewhere where you were going, anyway, rather than it being something else that you've got to do that might make me more likely."

The focus group successfully captured insights from a previously under-heard demographic. It validated key findings from phase one while providing additional depth on messaging tone, trusted sources, and the need for relatable, real-life case studies. Participants responded particularly well to social media card examples that balanced environmental messaging with practical benefits.

To deepen this research, future projects could run additional focus groups with this age group or specific demographics, to explore variations based on life stage or household type, for example with or without children. They could also consider testing digital engagement strategies live during the session, such as website mock-ups or printed communications, to get real-time feedback on their appeal and usability.



Conclusion

This project confirmed that ‘non-technical barriers’, particularly around knowledge, confidence and trust are significant obstacles for residents in Norfolk making home energy improvements. Overcoming these is essential to accelerating progress towards net zero at a community level.

While other ‘technical’ and systemic issues (like funding support and poor transport infrastructure) remain important, the project found clear potential to drive action through better communication and engagement. Financial barriers for example, were rarely just about affordability, but also shaped by life stage, housing plans, and uncertainty around eligibility or return on investment. Strategies to boost uptake must reflect this nuance, by increasing awareness of funding, simplifying information, and tailoring messaging for different groups.

The most effective interventions, such as Energy Champions, community-led case studies, and in-person drop-ins worked because they were rooted in place. Trusted messengers, like neighbours, known local organisations, and local councillors, were the most influential.

Some barriers were universal, like the demand for impartial advice and widespread mistrust of retrofit installers. But others were highly place-specific: concerns about retrofitting heritage homes were more common in Loddon, Chedgrave, and Swaffham, while fuel poverty and heating oil dependency were more prevalent in Marshland St James, Ormesby, and Stalham. This makes clear that one-size-fits-all solutions won’t work. Instead, locally tailored, place-based strategies are essential, that recognise the social fabric and practical realities of each community.

Engagement methods also varied in effectiveness by place, with trusted local champions, established networks and community-led promotion driving greater turnout and action. Having a dedicated local resource in the form of the project Community Coordinator proved critical in maintaining relationships, adapting approaches to each community, and sustaining momentum. This role helped to ensure that support is not only visible but also personalised and trusted.

Progress was most evident in communities like Eaton, Ormesby and Stalham, where strong local leadership, active community networks, and visible champions played a key role in driving engagement. In contrast, areas such as Loddon and Chedgrave, Marshland St James and across the Brundall Ward, experienced a more fragmented progress. While there were clear pockets of interest and action, efforts to build momentum across the smaller, dispersed communities proved challenging. In these areas, other community priorities took precedence, making it harder to sustain focus on home energy upgrade initiatives.

In short, unlocking demand for home energy upgrades must start with people, not just policies. By focusing on trust, relatable stories, tailored advice, and local networks, communities across Norfolk can lead the way in creating warmer, greener homes by inspiring and enabling residents to take action.



Recommendations

The following recommendations are ordered to reflect a balance between quick wins and longer-term, higher-impact actions. All are important, but their scale and depth could be adjusted based on available resources. Implementation should be tailored and locally informed.

- 1. Showcase relatable, local stories:** Use real-life case studies from within the community to demonstrate the benefits of low-carbon technologies. Highlighting trusted, local voices can help build confidence, dispel scepticism, and inspire others to take action. These stories should be diverse and reflect a range of housing types, financial circumstances, and retrofit experiences. This is a low-cost, impactful option.
- 2. Communicate funding options:** Increase awareness of available funding by promoting through local trusted channels and address widespread eligibility misconceptions. Focus communications on cost benefits or increased home value.
- 3. Use positive messaging to nudge action:** Avoid directive, negative or environmental led messaging focusing instead on resident co-benefits such as warmth and cost benefits of making home energy upgrades. Consider further testing and refining of messaging to ensure it resonates with different audiences.
- 4. Empower local leaders and community champions:** Identify and support trusted local figures who can act as clean heat retrofit ambassadors. Their involvement adds trust, credibility and can help spark wider community interest and demand. Consider developing case studies of these leaders and establishing a peer-led network across the county to sustain momentum, share experiences, and provide mutual support.
- 5. Expand the Energy Champion model:** Invest in recruiting and training local, community champions to provide personalised, trusted retrofit advice. Ensure sustained funding to scale this approach across Norfolk. Explore champions also offering open home events where they have technology such as heat pumps, to offer visitors greater knowledge and build trust and sustain the model.
- 6. Embed equity and inclusion throughout:** Ensure that every aspect of the project considers equity and inclusion. While requiring more effort, continue to prioritise engagement with underrepresented groups, (alongside those already engaged), particularly renters, younger families, and residents who are digitally excluded. Use a combination of online and offline approaches tailored to different needs, guided by the fictional user personas developed during the project.
- 7. Support tailored outreach by place:** Work with local leaders, parish councils, and organisations to deliver events, communications, and support that reflect the character, barriers, and needs of each community. For example, either hosting energy specific local events in partnership with credible organisations, well promoted by trusted messengers, or tack onto events residents are already attending to increase engagement.



Appendix

Appendices 1

Image 1: Two example of physical engagement tools (engagement board on the left and community postbox on the right) being used in Stalham and Loddon and Chedgrave.



Appendices 2

Image 2: Map of Norfolk Net Zero Communities, designed by local artist Madeline Smith.



Appendices 3

Seven user personas developed throughout the project

1. **Rachel, the Working Parent (35):** Rachel is a renter with limited control over retrofitting decisions. She faces financial struggles and prioritises immediate needs like feeding and keeping her children warm. Rachel is unaware of potential grants or feels she lacks the time and energy to pursue them. While concerned about energy costs, Rachel's ability to retrofit is hindered by her tenancy situation, lack of awareness, and limited resources including time and attention to research. Providing accessible information and support tailored to renters could empower her to advocate for improvements.
2. **Amina, the Social Advocate (41):** Amina is community-focused and wants to retrofit her home to set an example for her neighbours. She's motivated by making a positive social impact and addressing climate change. Amina is eager to act but constrained by limited funds and competing family priorities. The project could engage Amina at a local event and ensure there are clear resources that align with her goals and financial capabilities.
3. **Liam the Strategic Planner (54):** Liam is motivated by reducing energy bills, lowering his carbon footprint, and enhancing property value. Already proactive in improving his home's efficiency, he's eager to explore advanced green technologies like battery storage and heat pumps. Financially secure and knowledgeable, Liam is willing to invest but needs clear, reliable information. He's meticulous about planning and requires solid evidence of the benefits and payback of each choice to ensure his decisions align with both his immediate and long-term goals.
4. **Alan, the Sceptic (58):** Alan distrusts government schemes and heat pumps which he sees as 'green technologies'. He views these solutions as unreliable and unnecessary, preferring more traditional property retrofit instead such as loft insulation which he has installed himself. Alan may have the financial ability to change but lacks the willingness and motivation due to his scepticism and lack of trust which make him resistant to change. Engaging him would require addressing his concerns and demonstrating the tangible benefits of retrofitting in a way that aligns with his values. Working to share positive case studies through community networks such as local Facebook pages and the parish council newsletter could be an approach to try.
5. **Margaret, the Legacy Builder (68):** Margaret is deeply concerned about the environment and feels a personal responsibility to leave the world better for future generations, including her grandchildren. She is motivated by the idea that her actions can contribute to a sustainable future. Margaret is financially secure and willing to invest in retrofitting her home, but she wants to ensure that the changes she makes are impactful and meaningful. She is overwhelmed by the various choices available, and she values trust and guidance from knowledgeable experts. She's also concerned about how disruptive retrofitting might be to her home life. Margaret would likely be receptive to clear information on the environmental benefits of making retrofit changes and simplified language to make it easier to navigate choices.



6. **Elaine, the Cautious Retiree (72):** Elaine is interested in retrofitting but feels overwhelmed by the technicalities and worries about making bad decisions. She is concerned about costs, scams, and a lack of clear, trustworthy information. Elaine is willing to make changes but needs clear guidance, reliable advice, and support to overcome her apprehension. She prefers physical materials from trusted sources like her church newsletter. Providing in-person events and connecting her with an energy champion could encourage her to take action.
7. **Dorothy, the Older Homeowner (78):** Dorothy acknowledges the potential benefits of retrofitting but feels it is too late for her to make significant changes. She is on a fixed income and prioritises her current comfort and enjoyment. Dorothy's perception of her age, financial constraints, and the perceived disruption of retrofitting create barriers to action. Providing simple, low-cost options, emphasising comfort and security, and addressing her concerns about inconvenience could potentially motivate her.

These personas highlight the range of attitudes, motivations, and challenges within the community. Some individuals, like Liam, Elaine, and Margaret are more willing and able to engage in energy efficiency and retrofitting. Others, like Rachel, Alan, Amina and Dorothy, face significant barriers due to various factors, including financial constraints, lack of control, scepticism, and perceptions of age and disruption. By understanding and addressing these varied needs, the project can develop more inclusive and effective strategies to promote retrofitting and energy efficiency.



Appendices 4

Case Study example: Paul, on having a heat pump given at Eaton Our Power event

My experience of Air Source Heat Pump

Planning

- "You may have additional costs to pay for planning permission, building control fee and / or a Structural Engineers Survey and/or EPC Assessment"

Ours was "Permitted Development"- but you should check for your specific situation.

My experience of Air Source Heat Pump

- 75% reduction in total energy use
- All rooms heated all day
- Annual savings (£600pa) mean payback in less than 5 years- _
- Running costs depends on size of your home and how well insulated- a survey will confirm
- Essential to have an accredited (**Microgeneration Certification Scheme (MCS)**) supplier and good post-installation maintenance and support

Air source heat pumps (ASHP)

- Work like a fridge- in reverse!- extracting heat from outside air to provide central heating and hot water
- For every 1 kWh of energy in a gas boiler generally produces 0.8 kWh of energy out (heat)
- The same input to a heat pump produces 3.2 kWh of energy (heat). ASHP is up to 4 times more efficient

My experience of Air Source Heat Pump

Costs

- Octopus charged £10,800- survey, installation, radiator upgrades
- Boiler Upgrade Scheme (BUS) provided a £5,000 (now £7,500) grant.
- Our gas boiler needed replacing- £3000.
- Total capital cost to us: £2,800

Before...



After



Appendices 5

Case study template form

Name, location	
Project period (start and end date)	
Total Funding/budget (if applicable or happy to share)	
What technology or intervention have you had installed? E.g. insulation, solar-PV, heat pump?	
Why did you want to get the work done?	
How did you find your installer? Was there a specific program or scheme that helped you? Did you shop around for quotes?	
Can you describe the installation process? How long did it take, and what steps were involved?	
Were there any challenges in the install?	
Do you know any of the technical details about what you've had installed. E.g. For solar, number of panels, battery	
Do you know anything about the performance of the system? For example, energy generated, costs saved?	
What's been the benefits of having the work done? For example, has it made your house more comfortable, changed your habits, any expected benefits?	
Since you had the work done, has there been any ongoing maintenance, or issues or challenges?	
What would you say to others considering having similar work done?	



Appendices 6

Example two and four from the Focus Group: Homes Fit for the Future



Appendices 7

Focus Group: Homes Fit for the Future report (March 2025)

Group design, moderation and reporting by Jenny Kedros (Kedros Consulting Ltd)

Contents:

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Background and method

This report summarizes findings from an online focus group held on 18th March 2025 as part of the Innovate UK-funded Norfolk Net Zero Communities Project, led by the Norfolk Climate Change Partnership (NCCP) and supported by Hubbub.

The project aims to address the barriers residents face in adopting more efficient homes, renewable heat and power, and greener travel. The focus group's objective was to explore ways to build on the insights gained in phase 1 of the engagement program—specifically, messaging, communication strategies, engagement methods, and online support—to encourage Norfolk residents to adopt clean technologies, particularly heat pumps.

During the 90-minute session, messaging and intervention examples were shared via Mural, with a Hubbub team member managing the board. Participants engaged in a variety of ranking and grouping activities designed to frame the discussion and increase interaction.

Participant profiles

All four participants were female homeowners, aged 35 to 54 based in Norfolk.

A recruitment survey asked profiling questions about their attitudes and choices regarding home energy upgrades. While all participants were motivated to some extent to make energy improvements, not everyone felt able to do so practically or financially.

The group had varied experiences with home energy upgrades, ranging from no measures taken to insulation and solar panels, but none had installed a heat pump. Motivations for upgrading as stated in the survey included reducing energy bills, increasing comfort, and future-proofing their homes, with all participants citing environmental concerns as a key motivation. Participant quotes in this report are attributed via anonymised initials.



Research questions

The group guide was designed to answer the following questions.

- What stage are participants at in their uptake of home energy improvements?
- What awareness do participants have around green technologies? What do they know? How did they find this out?
- What are participants' motivations when they consider home energy improvement measures?
- What barriers exist to exploring or investing in home energy improvements?
- What information or messages can participants remember seeing in relation to home energy improvements? What, if anything, has resonated? How effective has the information been?
- How helpful/impactful is each of the message examples tested? Why? What would improve it?
- Where do participants expect to find information about home energy upgrades? Where do they want to find it, if they do? About heat pumps specifically?
- Which of the suggested intervention examples is most welcomed / seen as most effective?

Snapshot of findings

Stage: All respondents had considered home energy improvements. One had installed insulation and solar panels. None had a heat pump, although one had investigated the options and decided against it.

Awareness: Participants stated they had low awareness around green technologies. Any memorable information about heat pumps tended to come via personal contact and word of mouth. Impressions tended towards the negative but with little specific detail of why or where this impression was formed.

Motivations: Participants were prompted to explore options for home energy upgrades because of environmental concerns, at the point when existing systems needed replacing or to make a property warmer or more efficient. Environmental concerns weren't enough in themselves to push through to action.

Barriers (and how to overcome them): Those who had explored options often decided that the upfront cost was too high and would not be recouped. This, along with the anticipated levels of disruption was a key barrier. Uncertainty about levels of risk around new technologies was also an issue – seeing more people installing successful upgrades could overcome this. Others lived in properties that they felt could not be upgraded because they were flats, were too small to fit insulation or were too old or large to upgrade successfully or economically. Again, seeing evidence and details on upgrades to specific property types, and hearing from people with real and similar experiences would be welcomed to help overcome these concerns and build confidence to take the next step.

Message and channel recall: Participants struggled to recall seeing any messages about home energy improvements, whether positive or negative. They did have an idea that they'd seen information in council leaflets and booklets, on the council website and via



installer print advertisements, but could not remember ever following these up, or the specific details of the messages.

Message testing: Example 2 was the most preferred because it supported the environmental motivation reported by all participants, but all the examples which stressed positive co-benefits were felt to be impactful and the wider discussion demonstrated that environmental impetus alone was not enough to prompt action. Participants liked the examples which were supportive and positive. This applied to all the examples apart from Example 1 which was felt to be anxiety inducing (making participants feel fearful that they were uninformed, behind the curve or missing out) and too didactic. Examples giving short and informative facts describing how heat pumps worked, and the co-benefits were very well received – participants felt they had learned something new and that this might prompt them to explore further.

Intervention testing: All the interventions discussed were seen to be useful, apart from in-person events, which none of the participant felt they would visit. By far the most appealing and seen as a crucial first step in exploring options was speaking to homeowners, either via visits, chats with ‘energy champions’, or after reviewing specific case studies on a council website. Seeing successful stories from trusted people in similar circumstances, without the feeling of being pitched or sold to was highly valued. The second step would be to investigate the possibilities for your own home via the interactive planner, a home consultation and potentially contacting a range of suppliers using the directory (though participants were also keen to call on experienced homeowners in stage one for recommendations here). As a background resource the council website was seen as invaluable and the natural place to review case studies, find out local information, access the directory and understand details around grants, incentives and loans.



Focus group findings

What stage are participants at in their uptake of home energy improvements?

Reporting on Phase 1 of the project outlined a set of four 'readiness' groups. The focus group participants could be seen to align with the 'Aware but challenged' and 'Exploring' groups, with one participant who had installed insulation and solar panels, perhaps in the 'Ready to act/Already acting' stage:

Unmotivated or unaware

- None in this group - all participants had some awareness and motivation to make home energy improvements.

Aware but challenged

- BE lived in a block of 4 flats. She would like to improve the flat's energy efficiency, but was unlikely to renovate because she was planning only to live there for the short term. The flat had no gas or oil and she used storage heaters and a water tank.

Exploring

- KY had recently moved to a larger house and was unsure how she could keep it as warm as a smaller property without increasing her energy bill. She had thought about installing solar panels but was worried about the cost.
- RA had moved from a cold end of terrace to her current flat. Before moving she had made enquiries about new boilers, cavity wall insulation and loft insulation, but the cost was prohibitive and in an already small house she was reluctant to lose more internal space. Like BE, she had no gas mains and used electric heaters. She had installed secondary glazing in her current flat which had a co-benefit of reducing noise from outside.

Exploring / Ready to act

- HH was deciding whether to move or renovate. The family had already installed solar panels 8 years previously and they were very happy with the decision. The house used oil heating and she found this embarrassing as she worked in the environmental sector, so she was keen to change this, but after investigating the options for a heat pump, they'd decided against it as too expensive and too disruptive, opting for a more efficient boiler instead.

We asked participants to give us one word to describe how they felt about home energy improvements. The chosen words – **'overwhelmed'**, **'cost'**, **'undecided'**, **'limited'** – proved to reflect the barriers to upgrading that emerged during the group. That is – participants tended to feel constrained by the nature of their property, the level of disruption and the cost.

HH: ... I hate the fact that we're burning oil to heat our house. So we've had energy audits and things to see what might be possible. But essentially, we've been told it would be very expensive, very disruptive, and probably end up costing us more to heat our house if we went for an air source heat pump.

RA: So I moved out of a cold end of terrace... having made inquiries around new boiler, insulating internal cavity wall insulation, loft insulation, but I just, there was, you know, no way I could afford it. And it was a very sort of small two-up, two-down, and I was going to lose a lot of internal space.



What awareness do participants have around green technologies? What do they know?

How did they find this out?

Participants tended to say they had **low awareness** around green technologies and heat pumps. Even the participants who had investigated the options in the past expressed a lot of **uncertainty**.

Any views about heat pumps tended to come anecdotally via **friends or neighbours**. One had visited a property with a heat pump. Stories leant towards the **negative**, but participants found it hard to recall specific details.

BE: I know that they are supposed to be better for the environment [but] with my current living situation, it's not something I've really sort of looked into... A friend of mine... built their own house, and I know they had one. That's about as much as I know about them at this point. Yeah...

*RA: My dad looked into them, and then my ex and I were briefly interested in building a sort of eco home. We went to a [show] In Birmingham at the NEC and visited a property that had one, and they'd had a bit of a nightmare with it. **Moderator: Oh, why did they have a nightmare with it?** I can't remember. It's a long, long time ago. But yeah, they lived in a sort of nice, converted barn in the countryside. And yeah, it [had] gone wrong. And they just had a bit of a nightmare, but I can't remember any more than that.*

What are participants' motivations when they consider home energy improvement measures?

Motivations for exploring home energy improvements centered around:

- Environmental concerns
- Environmental values and identity
- Reducing energy bills
- The need to replace worn out, inefficient or broken-down systems
- The need to increase comfort
- Planning to stay in a property for many years

All the participants in the group had some level of **environmental concern** – in fact with the consensus being that the initial outlay on upgrades would take many years to recoup, 'doing the right thing' was seen as a key motivation for considering upgrades at all.

Although **saving money** was often a motivation when participants had started to explore options, they had concluded that this was not usually achievable. One participant was conscious that not installing upgrades could '**look bad**' **within their networks** and not sit well with their values:

HA: I mean, my motivation was to do our bit for the environment. So I've always been active in that space. But I always have to make a financial case to my husband for doing it... I work in the environmental profession. And I do quite a lot of engagement as a volunteer, and so I've always felt a bit hypocritical that we have like oil fire central heating at home.

When a **system needed completely replacing** the motivation was stronger:

HA: Our previous boiler was really unreliable and was constantly breaking down, starting to cost us a lot of money. So we needed to change that. So I was like, well, if we're gonna make an investment in a new boiler, let's look at the options. So we did. We did pay for an



energy survey to be done, and we did get some companies round to look at how that might work, what it might cost, what the grants would be.

One participant had had challenges with being cold in her previous house and **increasing** comfort was her primary motivation for exploring the options available, but she'd decided upgrades weren't worthwhile and instead had moved house.

What barriers exist to exploring or investing in home energy improvements? How might these be overcome?

After participants had started to explore the options, a range of barriers had prevented further action. This included the **nature of the accommodation**, e.g. a flat, or lack of space for insulation, the short **length of time participants expected to stay in the property**, coupled with the **high upfront cost** and the **low prospect of recouping the investment**.

RA: Previously I looked at photovoltaics and I looked at things, and I wasn't going to make the money back anytime soon. So [it] kind of wasn't even relevant, really. Kind of saving money on energy costs or any of that.

Where the investment was seen as one which could be **recouped in time**, this increased motivation. For example, one participant felt this could be achieved with solar panels.

KY: I'm curious about solar panels, because I think this house we would stay long enough to see the financial benefit in, say, 8, 10 years to make that financial case.

Anticipated **disruption** also played a role, for example replacing radiators and installing under floor heating as part of a retrofit.

HH: The house is an older house, and yeah, we'd have to put [under] floor heating and all kinds of things to replace all the radiators, which would be very disruptive and very expensive.

Again, the sense arose that installing these systems **entailed risk** and that they were not tried and tested. When prompted around what may increase the motivation and remove barriers to explore options in the future, participants spoke about the need to see more **tried and tested examples of friends and neighbours** installing successful home energy upgrades.

HH: Yeah. So I think I'd probably need to have like people within my networks that are giving me positive messages. To kind of validate that that would work for us. I think it's still kind of quite new technology and not widely taken up.

KY: I don't know if we're in a position to be able to afford it. [I] haven't really looked into it, but I noticed one of our neighbours opposite has them, so I'm planning on looking on their door soon to see how they did it.

Even where the environmental motivation was strongest, there was still a need to see **Increased financial incentives** with more grants and support, as well as evidence that heat pumps were **effective in heating older properties**.

HH: I think if there was enough kind of incentive of upfront grants to do the work that might be to kind of help that financial case for doing it. I am strongly motivated to live kind of a less carbon intensive lifestyle, and that's probably the one thing left that we could change



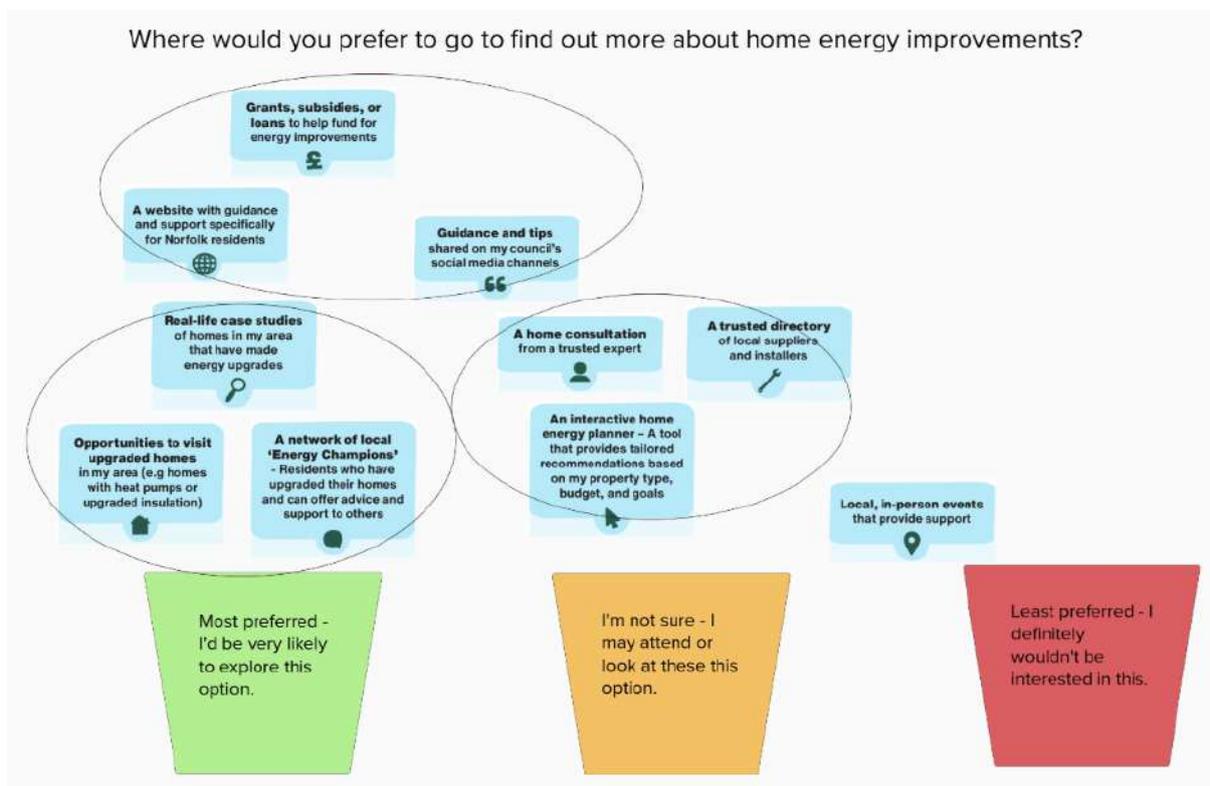
but yeah, it would need to be kind of incentivized a bit stronger. And yeah, maybe the technology needs to improve so... they become better at heating older properties.

What information or messages can participants remember seeing in relation to home energy improvements?

Before looking at the examples, participants said they had little recall of seeing messages about home energy improvements, whether positive or negative. They mentioned various channels or locations, as detailed below, but really struggled to remember specific details of the messages. As several of the group had mentioned exploring home energy upgrade options in the past, this suggests that messages they had seen were not memorable or informative.

How helpful/impactful is each of the message examples tested? Why? What would improve it?

The group discussed each of five social media post examples in turn. The examples were then considered as a group and ranked by level of effectiveness. The image shows the final agreed positioning of each example during the Mural ranking exercise. Rationale for these decisions and general observations on the examples are summarised below. Details of pros, cons and quotes relating to each example are provided below.



Group 1: Hearing directly from experienced homeowners

Any option which involved **learning about real experiences from homeowners like them** was among the most preferred by participants because they were trusted to be unbiased. Successful stories from these trusted messengers were seen as the greatest motivator, building trust in the process and the technology.

KY: I think that's really trusted. I would trust their opinion. They've gone through the experience of you know, researching and buying and paying for it and using it. And they'd be able to say, you know, highlight any challenges... and yeah, I would[n't] expect them to just be effusively positive about it, for no reason...

All options from homeowners were welcomed with different benefits for each. While all were helpful, they could be used at different stages and under different circumstances.

HH: I think you could kind of have the real-life case studies available as kind of documents on a website or kind of social media posts or something, and then that would be your 1st stage. And then you might want to follow that up by actually, if you found one that you thought was really relevant to your situation. You might then want to follow that up by going talking to them or visiting their [home].

Opportunities to visit upgraded homes in my area (e.g. home with heat pumps or upgraded insulation)	The direct view and experience of ‘someone like them’ with a similar property, who wouldn’t be ‘pitching’ or have an ‘agenda’. One participant was already arranging something like this independently.
A network of local ‘Energy Champions’ – Residents who have upgraded their homes and can offer advice and support to others	The actual visit wasn’t always felt to be necessary in all circumstances – the chat was enough, then may then be followed by a home visit if the context was felt to be relevant or similar.
Real-life case studies of homes in my area that have made energy upgrades	It was seen as useful to have these as documents on the website which may then allow you to contact the people in the case studies whose circumstances or properties were most relevant.

Group 2: Understanding tailored options

Options which involved a **tailored approach specific to the participant’s own home**, area and circumstances was considered valuable and may be taken up as a ‘next step’ after gathering initial information and confidence from experienced homeowners in the first group. It was suggested that the homeowner group may also be able to recommend installers as part of the directory.



An interactive home energy planner – a tool that provides tailored recommendations based on my property types, budget, and goals	Participants liked that this is tailored to their own property. This was potentially viewed as a free starting point on the council website before a visit from a consultant or installer who would take you through the options in more detail.
A home consultation from a trusted expert	This was thought to be likely to be a salesperson linked to an installer. It was assumed that this would not be a free service, but if it was free this may negate the need for the interactive planner. A free council service would generate more trust than a visit from even a recommended installer, although installers offering consultations may be linked from the trusted directory .
A trusted directory of local suppliers and installers	This was assumed to be like 'Checktrade' with feedback reviews from users building trust. Participants thought this would be useful after the decision was made to go ahead, and that at this stage, you may loop back to homeowners to find which installers they had used and if they recommended them.

BE: They [are] all kind of linked together because the home consultation, I'd be inclined to think that that would quite possibly be someone who was from a company, and I don't know if they would maybe be more of a sales [person].

Group 3: Unbiased, supporting information from the council

Wider guidance from the council as an independent source of advice was seen as crucial and the appropriate place to learn about grants and incentives. This encompassed the website, social media posts to capture the attention of people who may not actively be looking for the information and crucial information on grants, incentives and loans.

A website with guidance and support specifically for Norfolk residents	The website was seen as the natural location to seek unbiased information specific to their location.
Guidance and tips shared on my council's social media channels	Participants felt they'd be unlikely to click on these. However, they were less certain of this after seeing the posts in the examples previously which gave useful information, helped them learn something new and may prompt them to learn more.
Grants, subsidies, or loans to help fund for energy improvements	A crucial element to motivate action. The council website was seen to be the natural place for this information.

BE: Yeah, I agree with that, because I mean, once you start sort of looking into it. If you're deciding, this is the way forward. The next thing you'll be thinking about is obviously, can I do it? And how much is it going to cost me?



Less popular intervention

In-person events were the only intervention not popular with participants, seen as taking too much time and considered unlikely to be held at the right point in an individual homeowner's decision-making process. None of the participants felt they would make a special trip to visit something like this. Options to locate stands and information at other events which people may be going to anyway, perhaps at events aimed at children, may prompt more engagement, for example, one participant mentioned a stand they'd stopped at about hedgehogs at their local climbing centre.

HH... life with kids, lots of other things happening. And so it would just be a challenge for me to fit in around everything else, whereas I can just scroll to a website when I have half an hour waiting for the train, or whatever.

BE: I wonder if it was linked to something that people would be going to anyway, like that might make it more, you know, like event[s] that you might take your children to if there was the opportunity to maybe talk to someone you know, somewhere where you were going, anyway, rather than it being something else that you've got to do that might make me more likely.

Overall, the biggest drivers to taking next steps towards home energy upgrades would be seeing neighbours make the move and increased access to grants and incentives.

HH: I agree that probably the one thing that may change things would be hearing from people in a similar situation to me in a similar house that been on the journey, and their experience, and also stronger grants and incentives to make that next investment in our property.



Appendices A – Example by example analysis
Reaction to Example 1



Overall reaction: The least preferred example, this generated uncertainty. Participants queried the reference to 'the phase out of gas and oil'. Some thought the message introduced more questions than it answered and even generated anxiety around 'not being ready'. The idea that a heat pump would 'modernise' your home was felt to be appealing however.

Positive:

- ↑ To 'modernise' was felt to reflect the idea of 'adding value' to your home and appealing to future buyers.

Negative:

- ↓ Introduced uncertainty, and some anxiety about the 'phase out of gas and oil'.
- ↓ Not enough information to back up claims.
- ↓ The implied motivation to 'get ahead of the pack' was not appealing and didn't match with participants' environmental motivations.
- ↓ Too many messages that were 'mixed and vague'.

What would make it more impactful?

- ✓ More detail on benefits of changing to a heat pump – specifically around comfort and cost saving.

BE: Yeah, I think so... if you want to make improvements to your home by modernising it... that would perhaps add value to it, and if you wanted to move on yourself from it, you know people will... want to buy homes that are already ready to move in.

RA: I've not heard that gas and oil are being phased out... Bit dramatic...

HH: It doesn't say when the phase out of oil and gas is, does it? Are we assuming that it's 2035? Because that's when it says...5 million homes will have a heat pump. Is that the same as when the phase out?



Reaction to Example 2



Overall reaction: A positive reaction overall, the headline was seen to grab the attention and tell participants something they didn't know – for homeowners, increasing the value of their home was appealing and they wanted to read on.

Positive:

- ↑ Positive language – boosting property value appealing message.
- ↑ Evidence – Rightmove data showing evidence of heat pumps making homes 'more desirable' heightened interest in energy efficient homes and might encourage movers, as well as those staying long term to make the changes.

Negative:

- ↓ The message that the heat pump would increase house values didn't sit right with all participants.
- ↓ Language potentially too 'salesy' or 'pitch like'.

What would make it more impactful?

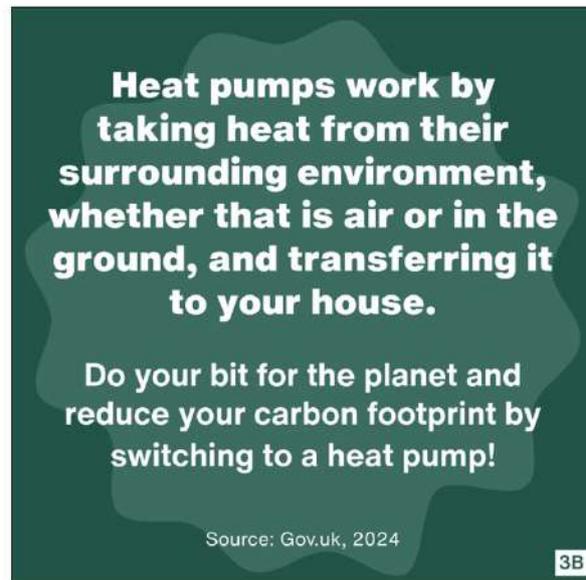
- ✓ Potentially including environmental as well as financial benefits could allay the misgivings of those who want to make changes to 'do the right thing' E.g. 'Boost the value of your home while you help the environment'.

HH: I am looking for properties that are more energy efficient. So yeah, ... it's... encouraging that... other people are doing that... And the fact that Rightmove kind of tracked that data and can claim that.

RA: I think it's just my kind of my outlook on life is just. You know my broader politics is, homes are not... I want it to be a nice place for me to live warm and safe and comfortable, and I don't like being pitched to by the lowest common denominator which is kind of 'money, money, money'.... So whilst I totally get it... I'm not saying that means I wouldn't be swayed by it. My initial response is it just riles me? I just don't want to be pitched at.



Reaction to Example 3



Overall reaction: The most unanimously preferred example. 'Doing the right thing' was seen as a prime motivation for all participants, supported by right financial and comfort co-benefits which were crucial to action.

Positive:

- ↑ Liked that it appealed directly to the environmental motivation.
- ↑ Direct reference to 'fossil fuels' makes the link to climate clear
- ↑ Educational element explaining functioning of heat pump interesting and useful.
- ↑ Reference to reduction of carbon footprint appealing to those with environmental motivation.

Negative:

- ↓ Potentially too much text to take it all in.
- ↓ Use of exclamation mark seen as a little patronising.

What would make it more impactful?

- ✓ Take out the final appeal to action 'Do your bit for the planet...
- ✓ Replace 'It's the environmentally friendly choice' with 'Help reduce your carbon footprint' to retain this part of the message.

KY: Personally, this is the one that would make me - and if it was online - like, click through to find out more, it tells me what a heat pump is, because I didn't really know how that worked. And I like that it's the environmentally friendly [message].

HH: I think the information about what heat pumps are is useful because it's just a really simple explanation. So yeah, I don't know which bit you would move. Maybe you don't need to do your bit for the planet with an exclamation mark that little bit patronizing.



Reaction to Example 4



Overall reaction: Well-received, this was felt to be informative and to provide new information, though it was perhaps less impactful than the most preferred examples.

Positive:

- ↑ Keeping a continuously warm home was an appealing message.
- ↑ Clear and succinct, giving new information.
- ↑ Tone of voice appealed – more supportive than didactic. Liked the question-and-answer format in the last statement.

Negative:

- ↓ Some uncertainty about target audience – those with storage heaters or those with standard boilers.

What would make it more impactful?

- ✓ Perhaps including information that standard gas and oil heating involves fluctuating temperatures (as well as heating with electricity only).

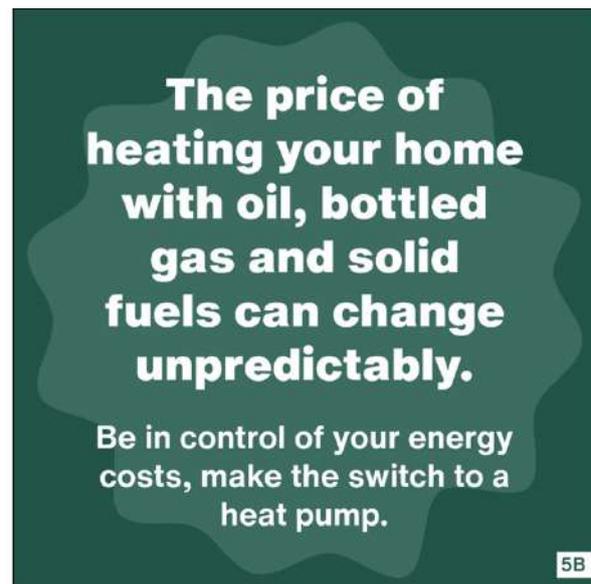
KY: It's nice that it talks about keeping your home warm all the time.

RA: The previous one was telling you what to do... For me, that was the thing it's like. Don't tell me what to do.

RA: This one confused me because I previously had storage heaters. So you get like this crazy burst of heat at a crazy time, and then nothing else. And it made me think of that. And that's therefore who this is pitched at. Whereas... maybe it's not. Maybe it's just pitched to all of us who have heat on and off during the day at various... But yeah, to me [it] didn't quite make sense to a generalist audience.



Reaction to Example 5



Overall reaction: Well-received with a positive co-benefit about staying in control of energy bills.

Positive:

- ↑ 'Compelling' message in current climate of increasing energy bills.
- ↑ Particularly compelling for those in rural properties using oil.
- ↑ Likely to prompt participants to 'find out more' specifically data on cost savings.
- ↑ Language – 'Be in control' – appealing.

Negative:

- ↓ Not quite clear if 'being in control' implies lower bills.

What would make it more impactful?

- ✓ No additional suggestions.

BE: One part I particularly like is where it says to be in control of your energy, because, you know, a lot of people have said, you know, at the minute it is so up and down, and obviously that would, especially with how expensive everything else is at the moment.

BE: If you knew your energy costs were going to go down. I think that would give you peace of mind and make it feel like this is a worthwhile investment and obviously that makes you maybe want to look into it



Appendices B – Interventions tested (for reference)

What would help you take the next step in upgrading your home's energy efficiency?

Guidance and tips
shared on my council's
social media channels



1

A home consultation
from a trusted expert



2

An interactive home
energy planner – A tool
that provides tailored
recommendations based
on my property type,
budget, and goals



5

Grants, subsidies, or
loans to help fund for
energy improvements



6

A website with guidance
and support specifically
for Norfolk residents



3

Local, in-person events
that provide support



4

Opportunities to visit
upgraded homes
in my area (e.g homes
with heat pumps or
upgraded insulation)



7

Real-life case studies
of homes in my area
that have made
energy upgrades



8

A trusted directory
of local suppliers
and installers



9

A network of local
'Energy Champions'
- Residents who have
upgraded their homes
and can offer advice and
support to others



10

Do you have any more ideas?

