



Retrofit Empty Homes Action Partnerships

Final Report

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Cover Image: Canopy Housing trainees working on-site

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Action on Empty Homes campaigns for more empty homes to be brought into use for people in housing need. Our aims are to:

- Raise awareness of the waste of long-term empty homes.
- Campaign for changes to national policy.
- Support local communities in transforming their neighbourhoods.
- Provide advice for those seeking to bring empty homes back into use.
- Research and develop ideas for bringing long-term empty homes back into use for those in housing need.



Action on Empty Homes

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Introduction

In June 2022, AEH began a one-year feasibility study (the study) to test and evaluate the viability of three-year local community-led Retrofit Empty Homes Action Partnerships (REHAP), to retrofit empty homes, deliver green skills training and build local supply chain markets, which together will help drive action on climate change at the local level.

The aim was to work within three local authority areas, each with the potential to deliver community-based fabric-first retrofit of empty homes demonstration projects. By doing so, we set out to develop a framework for action – the REHAP model – that could be further tested and rolled out across other areas, facilitating and scaling up the retrofitting of private sector housing.

The target outcomes for the study were as follows:

■ **Key Outcome One:** Up to three local authority areas will be identified with the potential to support feasibility testing.

Indicator 1: Community-based multi-interest reference groups have been established.

Indicator 2: An initial programme of induction to the project and learning about retrofitting has been completed.

■ **Key Outcome Two:** Options for delivering finance, on-site training and retrofitting works have been explored and developed.

Indicator 1: A negotiated framework with funders has been established and options exist to deliver community-led retrofitting of empty homes.

Indicator 2: A negotiated framework with training institutions and contractors has been established and options exist to deliver community-led retrofitting of empty homes.

■ **Key Outcome Three:** A feasibility study for a three-year local community partnership project to retrofit empty homes, deliver green skills training and build local supply chain markets, has been completed and published.

Indicator 1: The community-based multi-interest reference groups have tested and evaluated project delivery models.

Indicator 2: Learning from across the viability study has been collated and published.

This Report is intended to collate learning from across the viability study, to assess the extent to which locally delivered REHAPs can help to upskill and empower communities, enabling them to manage down the impact of climate change and tackle fuel poverty. This Report will be published in June 2023, and used to promote community driven retrofit of empty homes. REHAPs place communities at the heart of the changes they believe will strengthen their resilience and ensure the local economy is developed and shaped to work better for them.



Key Outcome One:

Up to three local authority areas will be identified with the potential to support feasibility testing

Our initial desk-top research identified a longlist of ten local authority areas where both communities and local authorities appeared committed to action on climate change. When invited to discuss the REHAP project, four areas expressed particularly strong interest at the political, senior management and community levels.

These were: Craven District Council (North Yorkshire Council); Leeds City Council; Rochdale Borough Council; and Preston City Council. As each area offered valuable opportunities for learning, we decided to work with all four, rather than restrict engagement to three as planned. Although each was distinctive, the areas were relatively close together which has provided opportunities to share experience and broker networks between local authorities, community groups and other partners.

Of particular interest in each area was:

Craven District

This is a rural authority centred around the market town of Skipton, and for the most part located in the North Yorkshire National Park. Residential property is largely stone built or of solid wall construction, and renovation is commonly constrained by conservation area standards. There was early engagement from the Council's Chief Executive and senior councillors, the Local Enterprise Partnership (LEP) and the Climate Emergency Officer. There was potential to link with existing and emergent community

groups, with the local FE college and with a major finance body, the Skipton Building Society.

Leeds

As a large metropolitan area, Leeds presents a diversity of communities occupying a wide range of property types. Leeds contained areas of marked deprivation and has a large number of terraced houses, including a significant number of back-to-back homes. The local authority engaged at the political and senior management level. AEH already had connections with two community-based housing projects, Latch housing and Canopy Housing, both of whom were undertaking retrofitting while renovating empty homes. Leeds City Council had experience of supporting retrofit in the private sector and had developed a number of financial models to facilitate this. The onsite experience of Latch and Canopy presented a clear opportunity to learn about the practical aspects of retrofitting older properties and to talk to trainees about their experience.

Rochdale

Rochdale is a district within the Greater Manchester area. The local authority is a Cooperative Council, keen to promote and support social enterprise, and committed to fabric-first retrofit of private sector housing. Rochdale Borough Council advocates area-based retrofitting rather than pepper-potting approaches, particularly in areas characterised by terraced housing. The Council has, for example, developed a number of models for funding and delivering 'whole street', mixed-tenure external wall insulation, including empty homes where they appear. Community housing group, Groundwork GM works closely with Rochdale Council to retrofit and renovate empty

The Chief Executive at Craven DC said:
'This brilliant project will be hugely beneficial'

homes, providing onsite skills training. Under the umbrella of Groundwork GM, the Council has kick-started a Community Interest Company (CIC) called Energyworks to carry out whole house retrofit assessment. The next step will be to set up a sister CIC to deliver retrofit works. Alongside work with Preston City Council, this is proving a valuable opportunity to understand the role of social enterprise in community-based retrofitting.



External wall insulation in Rochdale

Preston

Preston is a small city and forms the administrative centre for the County of Lancashire. The City Council has developed and is committed to the 'Preston Model', a term applied to how the council, its anchor institutions and other partners are implementing the principles of Community Wealth Building. In the context of community-based retrofit, this 'circular economy' Model was of particular interest to us. The City Council is supporting development of social enterprises, including an emerging worker-owned co-op that will undertake retrofitting works and offer apprenticeship and onsite training schemes. We will be connecting with the new co-op to understand how it is constituted and funded, and, importantly, how it generates sufficient demand for its retrofitting services to remain viable. On the political level locally, there is commitment to link a community-based homelessness project with the AEH retrofit feasibility study, with possible financial support from the Council to retrofit empty homes to be used as move-on accommodation.

Indicator 1: Community-based multi-interest reference groups have been established

In each of the areas we're studying, we have been able to engage with community groups actively working in housing and empty homes, climate change, and energy generation. The extent of community action is encouraging. We have found enthusiasm across our study partners for community based social enterprise to have a central role in emerging green supply

chains and to be an integral part of lower carbon, more sustainable local economies. There are considerable opportunities for social enterprise. The four local authorities in our study recognise that support for existing and emerging community enterprise represents an investment in the future rather than simply spend as such. The communities we have worked with seem increasingly conscious of their potential to drive forward the green agenda that can help to address climate change but, importantly, can have significant positive impacts for their well-being, for example by reducing fuel poverty and improving the internal as well as external environment. We have found that how they do this varies in line with local community priorities.

We have found that many emerging and existing community groups can be quite specific in their area of focus. Energy generations groups, such as Action on the Climate Emergency (ACE) in Settle and Preston Solar Action, focus on renewable energy generation, while in Leeds Latch and Canopy are focussed on fabric-first retrofitting, and in Lancashire Cosy Homes prioritises insulation. The development of expertise is vital for development of the overall programme of fabric-first retrofit, however the current degree of fragmentation could become an impediment to the pace and scale of change. This is a concern we will address through the REHAP framework. We have started to network the community groups we've engaged with. For instance, we have linked the emerging worker-owned co-op in Preston with Groundwork and Energyworks CIC in Rochdale to share 'start-up' experience, and with Latch

and Canopy in Leeds to expand knowledge of retrofitting and onsite training. The diversity of expertise and focus within the community sector is valuable and the social enterprises complementary. The parts of the fabric-first retrofit journey that they represent are each essential, however an important aspect of the REHAP framework will be to help bring the parts together into a more holistic collaboration.

Indicator 2: An initial programme of induction to the project and learning about retrofitting has been completed

We have been able to complete induction to the project in the study areas. This has been achieved through a series of meetings,

discussions and site visits in each of the study areas. The aims of the feasibility study were welcomed with enthusiasm and there was clear appetite to look in very practical ways at how local infrastructure can support fabric-first retrofit at scale.

With respect to learning about retrofitting, we quickly recognised this would be an ongoing and evolving journey. In the early stage of the study, however, we focussed on ensuring communities, local authorities and other partners understood the importance fabric-first retrofit and the need to take a holistic 'whole house' approach to ensure effective, good quality outcomes.

Key Outcome Two:

Options for delivering finance, on-site training and retrofitting works have been explored and developed

We anticipated access to finance for fabric-first retrofit to be a particularly challenging aspect of the feasibility study. To some extent that has been the case, however we have been able to explore new models for delivering finance and have discussed new funding options, lending products and opportunities targeted towards fabric first retrofit.

A central insight has been the importance of separating out the different areas of cost involved in retrofitting empty homes. There are essentially three cost areas: renovation costs, retrofit costs, and ongoing repair and maintenance costs. Once retrofit works have been assessed, the cost remains fairly static throughout the renovation and retrofit: c£20-£25,000 for an average three-bed house, and £30 - £35,000 to achieve near Passivhaus standards (based on discussions with study partners and architects experienced in retrofitting). The repair and planned maintenance could be scheduled, with

the required budget set and managed as one would normally do. The main variable would be the cost of renovation, where the extent of work required may not have been foreseen or underestimated. This has been important because we found a nervousness and perception amongst some funders and local authorities that retrofitting costs could spiral and be difficult to control. We have been able to demonstrate that this is very unlikely to be the case. The unpredictability lay with the property renovation works, and this was a risk they were familiar with and experienced in responding to and managing.

Indicator 1: A negotiated framework with funders has been established and options exist to deliver community-led retrofitting of empty homes

Early in the study we linked with Lendology, a CIC regulated by the FCA, working in southwest England. Lendology manages home improvement

and related loans on behalf of local authorities in the region and is currently developing a public/private finance model to deliver retrofit into private homes across the region. Lendology has expertise in retrofit and expertise in managing loans and grants and, as such, represents a knowledgeable 'safe pair of hands'.

We have discussed this type of social enterprise model with partners in the four study areas, including the Skipton Building Society, and all have expressed interest in exploring it further. We aim to hold a joint event in June with Lendology and partners for the study areas as part of the feasibility study to consider options for setting up a similar social enterprises in other sub-regions.

We have developed a positive relationship with Skipton Building Society as a major mortgage lender. In early 2023, Craven District Council presented the REHAP Feasibility Study at a Skipton Building Society conference. This was followed up by an invitation for AEH to meet with the Head of Corporate Communications and ESG. Skipton Building Society has in recent months launched two new financial products to fund retrofit and is currently undertaking a fabric-first retrofit of a house it owns to learn more about the process. We have been invited to contribute to and follow their progress with this project.

Local authority funding has proved, and is likely to continue to prove, central to the fabric first retrofitting of empty homes. Local authorities appear increasingly creative in the way they approach this, pulling on funding from across the authority rather than just housing funding. Leeds City Council, for example, used Right to Buy receipts to fund the renovation works and commuted sums (via Planning) to fund the retrofit elements.

Canopy housing accessed SASC and local authority funding for renovation works and charitable funding (Albert Gubay Foundation) for the retrofit elements. Preston City Council expressed interest in using Climate Change funds for the retrofitting element of the renovation of empty homes.



Canopy Housing trainees working on-site

While access to funding for retrofit may remain a challenge, we are much more confident than we expected to be about the opportunities to pull funding together around retrofitting, albeit in some cases like jigsaw pieces.

This 'patchwork' approach is not dissimilar from our previous experience with community based housing projects: we know it can be done.

We are confident these early combined funding models will help to kickstart local area-based retrofitting and as such help to create demand which will in turn help develop skills and local supply chains.

Indicator 2: A negotiated framework with training institutions and contractors has been established and options exist to deliver community-led retrofitting of empty homes

A finding which stood out during our site visits and discussions with stakeholders was that fabric-first retrofitting does not necessarily require substantial training in new onsite skills. While the materials used for fabric first retrofitting, such as wood fibre boards or lime-based plasters, may require minor adjustments to standard trade practices during installation, these skills could be readily developed by existing tradespeople and trainees. Our focus with this outcome has been three-fold: understanding the skills required at the different stages of retrofitting; identifying specialist expertise and how this may be acquired; and exploring inclusion of retrofit practices into existing trade-based training.

We found that specialised retrofit expertise will be required in the beginning of a project (when the case-specific needs are being assessed and accounted for), at the end of a project (when assessment is undertaken to gauge how the retrofit is performing), and onsite project management skills will be necessary to keep both renovation and retrofit works under review.

Specialised expertise: Assessment of works and evaluation

Assessment of the retrofit works required and quality control are cornerstones of effective, sustainable fabric first retrofit and requires specialised expertise.

PAS 2035 is the industry standard used to assess whole-home retrofit projects. The PAS 2035 framework attends to the technical specificities of particular dwellings and buildings while ensuring livability and occupant wellbeing. Training in PAS 2035 retrofit assessment is currently offered through modules organised and prepared by Retrofit Academy. There are an increasing number of individuals and organisations skilled in retrofit assessment. A growing number of housing associations and

community housing groups now employ qualified retrofit assessors, for example Energyworks CIC in Rochdale and Canopy in Leeds. The Retrofit Academy has started to offer a 'franchise' model, where training institutions and college modules can, with support from the Academy, start to run retrofit assessor training in their locality.

New building assessment technology is beginning to emerge which can help with the initial assessment of the property and identification of the works required to achieve a defined level of energy efficiency and thermal comfort. One such tool is WUFI, a software system able to perform dynamic simulations which can be used to assess the appropriate approach to retrofit for a specific house in its climatic context, specifying the materials required. WUFI is now approved for PassivHaus certification. This technology is available and in regular use, and we expect to include it within the REHAP framework as an example of a tool that can be used to assist with work specification and quality assurance.

Once works have been completed, it is important to monitor and evaluate the performance of retrofitted homes to ensure their proper functioning. PAS 2035 is the industry standard used to assess whole-home retrofit projects.

The PAS 2035 framework attends to the technical specificities of particular dwellings and buildings while ensuring livability and occupant wellbeing. Training in PAS 2035 retrofit assessment is currently offered through modules organised and prepared by Retrofit Academy. There are an increasing number of individuals and organisations skilled in retrofit assessment. A growing number of housing associations and community housing groups now employ qualified retrofit assessors, for example Energyworks CIC in Rochdale and Canopy in Leeds. The Retrofit Academy has started to offer a 'franchise' model, where training institutions and college modules can, with support from the Academy, start to run retrofit assessor training in their locality.

PAS 2035:2019*Incorporating Corrigendum No. 1***Retrofitting dwellings for improved energy efficiency – Specification and guidance****PAS 2035 quality framework**

We have connected with Yorkshire Housing Association who have retrofitted thirty houses and flats in Craven District. They carried out external wall insulation and installed solar panels and air-source heat pumps. We have learned how they measure and understand the efficiency of the systems installed and how they measure the impact of the changes for residents. It is clear that efficiency measurement can be complex, depending on the metrics used, and can be effective for some metrics and less so for others. For example, for each property, Yorkshire Housing was able to measure the times at which the solar panels were fueling the air-source heat pump but not how this translated into overall energy use or reliance on the grid.

For the householder, making effective use of a heating system based on an air-source heat pump required a different approach to using gas or direct electrical heating. Some residents adapted better than others. We plan to talk with the Welsh School of Architecture who have undertaken considerable work in this area, liaising with residents before and after retrofitting and measuring before and after efficiencies and a wide range of impacts.

Discussions with local authorities have indicated that the level of retrofit knowledge and quality assessment skills of key departments such as planning and building control remains limited. This is potentially a significant barrier to progress and the development of confidence i.e. demand in the retrofit sector. Without consistent demand, it will be more difficult for viable and reliable supply chains to develop. We plan to hold discussions between the Retrofit Academy and the Study local authorities to explore targeted ways of upskilling especially building control staff.

On-site Project Management

During the course of property renovation, it is not uncommon to come across unforeseen works, for example rotten joists or below-floor damp penetration. We learned with Canopy in Leeds that once the property has been stripped

back, unforeseen issues such as a previously concealed 'cold bridge' may be found. When retrofitting it would be essential to properly seal and insulate this bridge before continuing, which may involve using waterproofing materials different from those planned for. Similarly, a home once fully sealed and insulated will perform differently from its original state.

Planned heating systems should be reviewed following the completion of insulation and ventilation works, and scaled up or down to reflect the new indoor environment.

We recommend that on-site project managers should also be qualified up to the PAS 2035 standard to be able assess any modifications required during the renovation and retrofit works.

Trainees on site

Empty homes are useful assets for cultivating local retrofitting projects because there are no occupants to decant while works are underway. This positions vacant properties to serve as valuable starting points to develop green skills and familiarise constructors with retrofitting. We toured properties undergoing retrofit in Rochdale and Leeds, and spoke with volunteers, trainees, and professionals involved in the day-to-day delivery of retrofit. Retrofit work sites are a place where community members can convene to develop new capabilities and develop their confidence in retrofit and renovation skills.



Canopy Housing trainees installing vapour barrier

Canopy Trainee: 'I'm learning to install internal wall insulation, getting the skills I need to be part of a green future. It's really important that we don't waste energy, not just for the planet but to tackle fuel poverty as well. It's win win to fully retrofit empty homes'

We found trainees in retrofitting skills had a range of motivations: some sought to gain on-site experience with a view to jump-starting a career in a trade, others were passionate about helping to make their community more sustainable and providing affordable low carbon housing for people of all backgrounds and needs. In some cases, the future occupant of a retrofit project may have been directly involved in the retrofit works, helping to improve their sense of self-sufficiency and preparing them to understand their retrofitted home from a holistic and systematic perspective.

A retrofit coordinator at Canopy emphasised that on-site retrofit training can help to equip young or long-term unemployed people with basic trade skills such as joinery, insulation installation, and painting, or can help to transition general labourers towards specialties, all while introducing these workers to employers.

In this sense, community-led on-site delivery of retrofit produces spillover effects by expanding and upskilling local labour.

Key Outcome Three:

A feasibility study for a three-year local community partnership project to retrofit empty homes, deliver green skills training and build local supply chain markets, has been completed and published

Indicator 1: The community-based multi-interest reference groups have tested and evaluated project delivery models

Throughout the study period we worked with our multi-stakeholder reference groups in an ongoing and iterative process which informed our approach to the project delivery model, the REHAP framework. We held regular meetings, interviews, and focus group sessions with our reference group collaborators in order to test,

evaluate, and re-assess the framework throughout each stage of development. We wanted to draw on our partners' insights and expertise and use this knowledge to shape the framework. To complete this process we asked for structured feedback from our reference groups throughout May 2023. We assessed the current state of retrofitting, community action, and skills education in each study area, defined an ideal outcome state tailored to each location, and proposed a series of intermediate

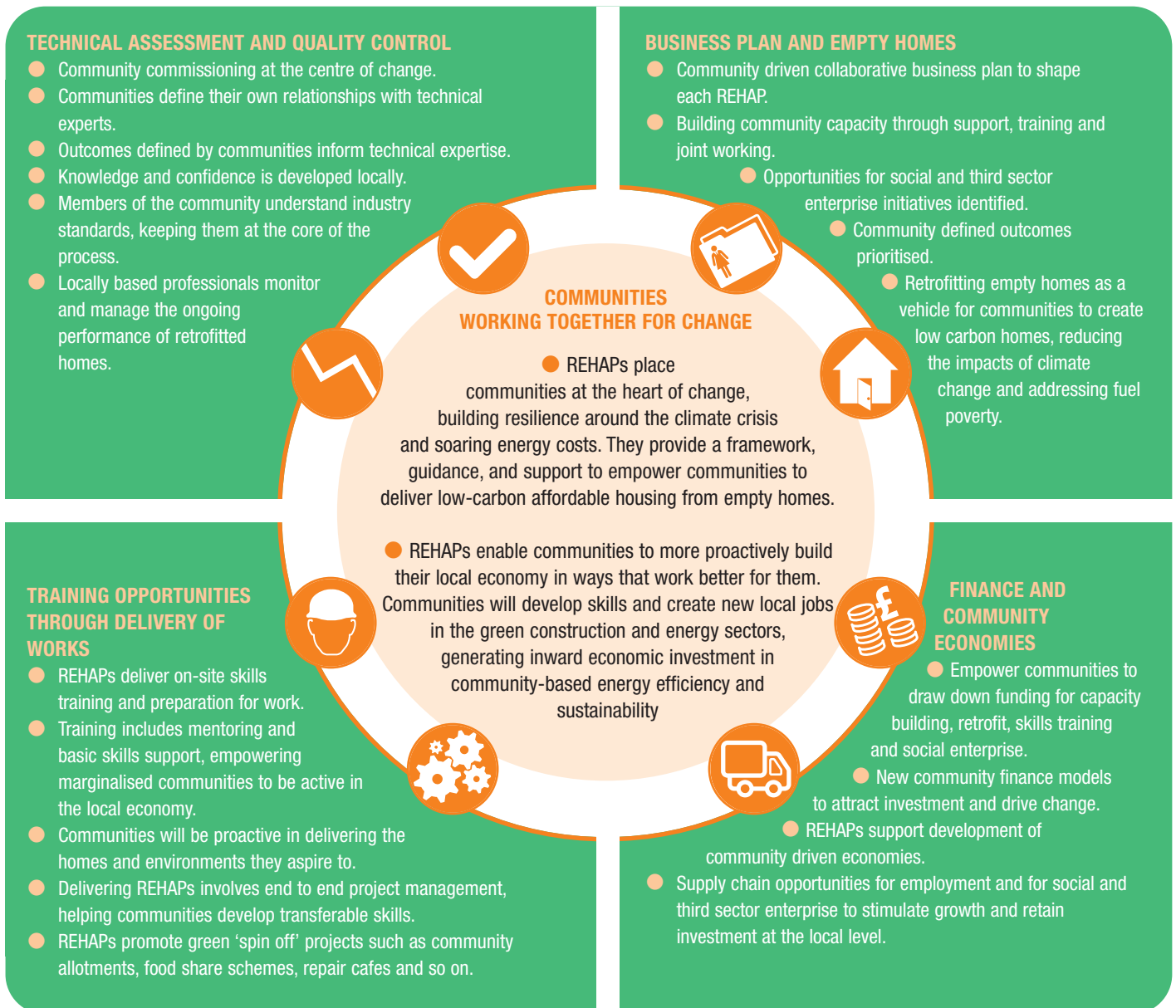
steps which would move each community towards the ideal outcome state. We presented this material, as well as the REHAP framework, to collaborators from each of our reference groups and asked them to walk us through their assessment. Finally, we used these insights to refine the framework's language, structure, and presentation.

REHAP Framework

The REHAP Framework we developed shows the core process elements to be drawn

When reviewing the REHAP Framework, the Climate Emergency Officer from Craven District said: **'The framework is clear and simply laid out. It shows all the component parts of a REHAP, and places communities at the centre'**

together for effective delivery of fabric first retrofit of empty homes, and how REHAPs put communities at the heart of change and help build economies that work better for local people.



Feedback from Reference Group Structured Interviews:

Target outcomes agreed by Reference Groups

The reference groups were of the view that through REHAPs, communities can be empowered to manage down the local impacts of climate change and fuel poverty. Enduring community collaborations and multi-agency partnerships that aim to sustain and expand the retrofitting of existing homes would be in place. The training opportunities and development of social and third enterprises would drive an increase in community-based retrofit skills and technical competence. As a result, the local economy would become more community-grown, fostering a greater sense of autonomy and resilience. Green skills would be integrated into college-based learning, preparing especially vulnerable communities for a sustainable and low-carbon future. Moreover, the supply of low-carbon affordable homes would be increased by utilising the existing underused housing stock.

Study area 1: Preston

A local worker's co-op is currently being developed in Preston with support from Preston City Council as well as charitable funders and government schemes. While Cosy Homes Lancashire currently handles retrofit work across Preston and receives the city's ECO and HUG funding, one of the primary aims of the emerging co-op is to develop the capacity to deliver retrofit works, and in doing so to offer onsite retrofit skills training to community members. We have partnered with the emerging co-op in order to share learning and explore applying the REHAP model. Early indicators suggest that there is interest among the co-op, community organisations, and local council to acquire and retrofit empty properties in order to provide low-carbon move-on accommodations

for a community-based project that support young people at risk. Preston College has also expressed interest in supporting the co-op by helping to deliver retrofit skills to trainees.

Intermediate steps to achieve REHAP outcomes

In order to coordinate action towards community-led retrofitting in Preston, a community meeting will be hosted jointly with Preston Co-op Development Network. This meeting will also explore options to deliver supported onsite training and low carbon move-on accommodation. We aim to engage with the housing association Community Gateway to explore opportunities related to vacant properties and their potential for retrofitting. Collaborations with Preston College will be explored to discuss the delivery of skills training programs that align with community-led retrofitting goals. We aim also to broker links between existing climate action related community groups in Preston to identify shared objectives and opportunities for partnership working, and to collaborate with the Social Enterprise Lancashire Network (SELNET), to leverage resources and expertise for a more comprehensive and impactful approach.

Study area 2: Craven District (now North Yorkshire Council)

Before reorganising and forming part of North Yorkshire Council, Craven District Council took steps to purchase a portfolio of properties which they planned to retrofit and bring to use as affordable accommodations. These purchases are still going through and the properties remain earmarked for retrofitting. There are existing community based groups in

the Skipton area including Community Land Trusts and a community energy group (ACE), however the Council is keen to extend community engagement by supporting development of community-based retrofitting within the context of a REHAP.

They aim to begin this process through the training opportunities afforded by REHAPs, working with the local college and focussing on young people on the edge of formal education. Craven College has expressed interest in collaborating on the delivery of retrofit works by offering retrofit skills training. Currently, the Skipton Building Society is undertaking a retrofit project of its own in order to better understand the process and learn how best to support households and invest in the local economy.

Intermediate steps to achieve REHAP outcomes

To enhance the skills training aspect of the project, discussions will be held with Craven College to explore options for embedding skills training in college-based learning, including the possibility of facilitating on-site training opportunities through community-led empty home retrofitting. The local authority has previously completed preliminary retrofit supply chain investigations and has indicated an interest in conducting further research in anticipation of carrying out retrofit works.

Additionally, efforts will be made to establish links with supply chain stakeholders, with a particular focus on sourcing sustainable construction materials for the retrofitting process. Collaborations with community organisations and land trusts will be fostered to promote and support community engagement with retrofitting initiatives. Seeking funding for the retrofitting works will be a priority: community partners may choose to submit proposals to the Local Authority addressing areas such as homelessness, community action, social enterprise, climate emergency, and sustainability. We will also engage further with Skipton Building Society to explore potential financial support for retrofit.

When considering the value of the partnered REHAP approach, the Operations Manager from Groundwork GM pointed to the existing potential for miscommunications: **‘There can be a conflict between what the architect designs, what the contractor can deliver and what works for the community. The REHAP approach will bring everyone together from the start.’**

Study area 3: Rochdale

We have formed a relationship with community-based Groundwork GM who are currently delivering retrofit works in Rochdale. One such project, expected to be completed and operational by the end of the summer, will provide accommodation and support for local veterans. Onsite training will be available to long-term unemployed people seeking to upskill or retrain. Groundwork GM is working with Rochdale Borough Council to develop a retrofit social enterprise called Energyworks. We are keen to continue observing the development and implementation of Energyworks, as we view social enterprise models as an especially impactful component of community-led retrofitting.

Intermediate steps to achieve REHAP outcomes

We will stay engaged with Groundwork GM and Rochdale Council as they collaborative to get Energyworks off the ground. In particular, we will seek to learn from the development of a business plan for Energyworks, as this could guide retrofit social and third sector enterprises in other case study locations as they emerge. We will also be interested in learning from how Energyworks as a specialist social enterprise delivers on- and off-site retrofit skills training. We will follow the progress of the long-term unemployed trainees and workers contributing to Groundwork GM's current housing and retrofit projects.

Study area 4: Leeds

Two community-based organisations, Leeds Action to Create Homes (Latch) and Canopy



Housing, currently deliver retrofit works as well as on-site training to volunteers and trainees in coordination with the Local Authority. Leeds City Council is proactive when it comes to retrofitting and investment in social enterprise. Both Canopy and Latch have expressed interest in working with local colleges to produce a retrofit qualification which their trainees and volunteers could gain credits towards through their on-site experience. The current activity around community-led retrofit in Leeds positions it as a beacon for other communities to follow suit. Given the extent of existing retrofit work and innovation currently taking place here, we anticipate continuing to engage with our Leeds reference group in order to share learning and experience in other study areas. To this end, Canopy has expressed interest in developing a possible secondment scheme whereby personnel from Canopy with experience in supporting community-led retrofitting can help community retrofit organisations in other areas to build capacity and create partnerships.

Intermediate steps to achieve REHAP outcomes

To facilitate collaboration and effective implementation of the REHAP framework, there will be ongoing liaison with community organisations. This will involve presenting the REHAP framework to these organisations, seeking their input, and fostering their

engagement in the project. Additionally, meetings will be scheduled with the college to discuss the development of a skills training program. Furthermore, we will convene personnel from Canopy to discuss the possibility of developing a secondment scheme. This would involve temporarily assigning personnel from Canopy to work on REHAP projects in other locations, providing the support and expertise needed to get a community-led retrofitting project or social enterprise off the ground.

Feedback on community outcomes

All interview participants emphasised the importance of centring the role of and benefits to communities in the framework. From identifying empty homes and advocating for them to be brought back into use, to helping ensure that local contractors are employed on-site, communities have the power to make retrofitting a boost for local economies. As one partner noted, “it’s about empowering communities to act without falling into pitfalls.” When communities are engaged and on-board, retrofit projects benefit from scale relative to “pepper-potting” approaches. Interview participants from local authorities told us that the community focus of the framework corresponds with local authority priorities. One partner observed that “I can really see the emphasis on communities working together for change, this sits with what North Yorkshire is seeking to achieve.”

Feedback on training opportunities

Overall, feedback regarding the REHAP framework confirmed that on-site retrofit training delivery was feasible via community organised empty home retrofitting. In Rochdale and Leeds, community-led organisations engaged in retrofit are already in conversation with local colleges with the aim of blending their on-site training delivery with college-based learning and qualification. Participants from these reference groups emphasised that training and green skilling “must be put front and centre.” Likewise, partners in Skipton confirmed their interest in replicating this model of training and have visited Canopy in Leeds to better understand the model.

Feedback on Local Economies

The link between REHAPs and local economic benefits was highlighted by all partners.

The idea of developing competence within communities and empowering them to drive innovation and change resonated with community and local authority priorities to build new community-focussed economies.

Our partners in Preston emphasised that REHAPs fit within the Preston Model of community revitalisation, while others from our reference groups confirmed that the Framework matched their own aims to “keep the local pound locally made and retained in the local economy.” Partners emphasised how REHAPs could stimulate local growth and create opportunities for community enterprises, including co-ops, community interest companies, and other third sector initiatives, increasing the green-skilled labour market, providing green skills training and generating

local demand for retrofit and regionally-sourced sustainable building materials.

Indicator 2: Learning from across the viability study has been collated and published

This Report represents delivery of Indicator 2. The Report will be formally launched at the planned ‘Talking Retrofit Finance’ event in Leeds in June 2023 and at the Building Centre Retrofit Exhibition in London in July 2023.

It will be distributed through our networks, promoted through our online communications strategy and at events we attend. It will also used as evidence to lobby government to provide funding for communities to deliver REHAPs at scale.



Canopy trainees install wood fibre insulation

Other associated progress and learning

Acquisition of Empty Homes

We have reviewed how access to empty homes can be achieved in order to undertake fabric-first retrofitting and renovation. Discussion with the partner authorities and agencies about this has been quite a revelation and has somewhat changed our thinking. The 'standard' models we assumed would be either (assisted) purchase by community groups or a lease and renovate

model. These models remain relevant, however we have found a greater degree of creativity than anticipated. Local commitment to addressing climate change and retrofitting homes in the private sector seems to provide the impetus to adopt pragmatic 'can do' approaches. These approaches vary across the areas we are studying.

In Craven District, the local authority worked strategically with the North Yorkshire LEP, specifically in relation to the AEH Feasibility Study, to secure 50% funding to purchase three empty homes for retrofitting. It was recognised that this would provide valuable local experience and learning, and the properties once completed would act as exemplars of fabric-first retrofitting, especially in conservation areas. The local authority share of funding would be drawn from commuted sums (via Planning), Right to Buy receipts and climate emergency capital funding. The local authority would pass the properties to local Community Land Trusts (CLTs) to carry out the works and provide onward management.

A potential acquisition in Skipton

In Leeds, the City Council had a programme of active enforcement with respect to empty homes, including compulsory purchase (CPO) and Empty Dwelling Management Orders (EDMOs). Once acquired, the homes were transferred to community-based housing groups, such as Canopy and Latch, for retrofit and renovation.

In Rochdale, the local authority street by street approach to, for example, external wall insulation did not rely on transfer of ownership or leasing arrangements for the inclusion of



A potential acquisition in Skipton

empty homes in the scheme. Empty home owners were encouraged to participate and assisted with funding if required. If, however, the owner could not make a financial contribution, the property would be included in the scheme at no cost to the owner. The Council considered the 'cost' of leaving a 'cold bridge' in an otherwise insulated row of houses to be greater than paying for its inclusion.

Preston City Council worked with Cosy Homes in Lancashire to provide a suite of retrofitting options in private sector housing. At the time of writing, Preston did not have a scheme in place for retrofitting empty homes.

We were however able to share models of good practice from the other areas in the Study, and it was from these discussions that the proposal to connect with the community-based homelessness project emerged, to secure and retrofit one or two empty homes as low carbon move-on accommodation. We will follow-up on the proposal and convene a multi-agency meeting to explore opportunities to progress this.

Supply Chain

Building local and regional green supply chains is an important component of community-led retrofitting. Retrofitting projects utilise specialised construction materials which may be more expensive and less readily available than standard materials. While materials such as Hempcrete or lime-based plaster are already produced in the UK, retrofit projects often depend on imported materials, a factor which may complicate project planning especially considering the disruptive impact of Brexit on supply chains. However, our partners agree that one key to stimulating green local supply chain growth is consistent funding: if there is a market for retrofitting services, suppliers and manufacturers will adjust their offerings accordingly.

In most cases, gaps in local and regional green supply chains can be ameliorated through coordination and cooperation between supply chain stakeholders. However, in order to identify

gaps, local authorities may wish to conduct a retrofit supply chain review. This could be a systematic analysis of local retrofit supply chain conditions and could incorporate education and training, public awareness, and political support. Craven District Council, for example, has completed a retrofit supply chain survey, and plans to deploy their findings to fill supply chain gaps, increase coordination among stakeholders, and identify new opportunities for making retrofitting more efficient.

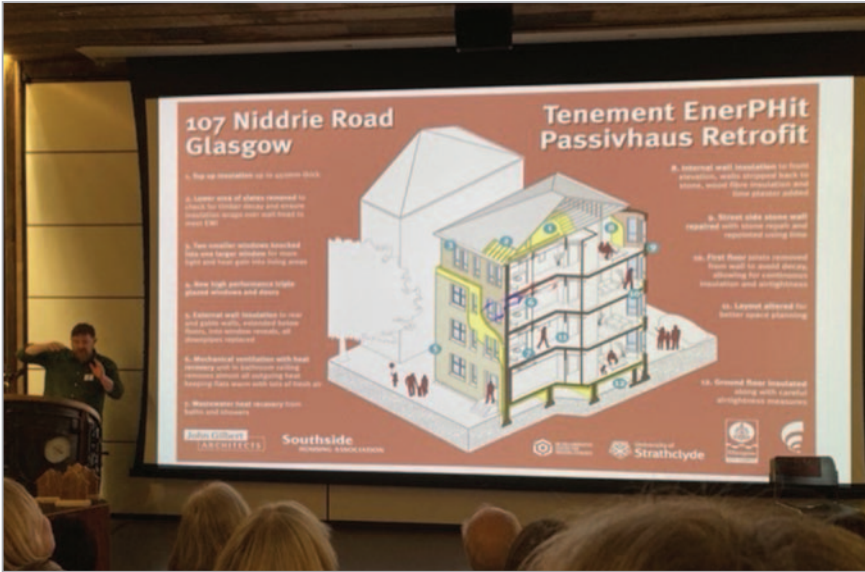
As noted above, supply chain and demand are two sides of the same coin, however without demand, supply chains are unlikely to develop with confidence. Funded fabric-first retrofit of empty homes has a key role in building demand and developing appropriate knowledge and skills. We will further review Energyworks CIC in Rochdale to learn how they have successfully built demand for their services and follow the development of the emerging sister company to better understand the business structure and approach to marketing and customer relations.

Promoting the Feasibility Study

Over the course of our study we attended several trade events and conferences dedicated to retrofitting. We have benefited greatly from the conversations we have had and the connections we have made on these occasions. At each event our project was met with enthusiasm, and overall we gauged that while great interest has emerged around retrofitting, there remains a sense of deep confusion and apprehension even among architects, developers, property managers, and councilors.

In November 2022 we were invited to host a table at the Architects Journal Retrofit Live conference. There was considerable interest in our work and in the delivery of fabric-first retrofit at the community level. During the same month we also attended Unlock Net Zero Live where we shared details of the Feasibility Study and learned about specialised construction materials for retrofit. The event was attended by industry leaders, activists, and property management firms.

In February 2023, we were invited to lead a discussion about community based action on empty homes and retrofitting at the 'From Crisis to Co-op - Future Co-ops Conference 2023' in Oxford.



In early March 2023 we were invited to the Scottish Empty Home Partnership 2023 Conference, titled "Repair, Reuse, Revitalise" where we led a workshop on our Retrofit Empty Homes Action Partnership feasibility study. The conference provided an opportunity to further test our findings. The study was widely welcomed, with much interest in our progress to date. We also made some valuable connections especially with Historic Environment Scotland and with an architect specialising in retrofitting empty homes to deliver affordable housing.

In order to launch and promote the final report from the Retrofit Empty Homes Action Partnership feasibility study we are scheduled to present our findings as part of The Building Centre's "Towards Deep Retrofit" exhibition.

We connected with architect Chris Morgan following his presentation at the Scottish Empty Homes Partnership conference



Our table generated discussion during the Architect's Journal event

Concluding remarks

What has been made emphatically clear to us is that interest in whole-home, fabric-first retrofitting is rapidly crystallising. As community groups and local authorities prepare to address the challenges posed by climate change and collectively strike a path towards green, inclusive economies, they are eagerly seeking resources and guidance on retrofitting.

Certain questions remain and demand attention. Supply chain gaps, patchwork financing, the possibilities offered by CICs, and the interest of community groups in mobilising around retrofitting are particular points of interest which deserve further study. Moreover, our theories and proposals need to be elaborated and put to the test: what would a Lendology financing model look like in our Study region, and what would it take to connect manufacturers of specialty retrofit materials with training institutions?

The REHAP framework empowers communities with the knowledge and tools to draw in funding, upskill local labour, and manage investment and commissioning. Our partners in community organisations and local authorities view REHAPs as an opportunity to unlock empty homes and create low-carbon affordable housing, build green community economies, and create new jobs and training opportunities for underserved community members. REHAPs place communities at the heart of change, ensuring that the transition to net-zero feeds into community capacity building and invigorates local economies.

Different approaches to retrofit exist: some use ‘pepper-potting’ instead of engaging with communities, some forgo locally produced sustainable materials to cut costs, and some

only go as far as installing heat pumps and solar panels, neglecting the fabric of the dwelling. Drawing on the advice and experience of innovators in the retrofit space, we have developed a framework which carves out a distinct path. The REHAP framework equips communities to deliver fabric-first retrofitting in a way which ensures that the benefits – local jobs, new green industries, and opportunities to gain new skills in an emerging sector – are captured and retained locally. The REHAP framework is a vision of retrofit as a catalyst for changemaking: a fabric-first approach threaded into the fabric of communities.

The existing literature on retrofit is highly technical, having been predominantly written by and for architects. We have sought to fill a gap in this literature by exploring community-led approaches to harnessing the social value of retrofitting. To accomplish this, we developed, tested and evaluated the REHAP framework alongside our multi-stakeholder reference groups in Craven, Preston, Rochdale, and Leeds (see Outcome 1), analysed the feedback we received and collated our learning from across all four reference groups (see Outcome 2), and compiled and published the results of this feasibility study as a final report (see Outcome 3). The REHAP framework has been received with enthusiasm across all four study areas, and the reasons for this could not be clearer. When communities are empowered to take action on retrofitting, the social value of creating sustainable and inclusive communities ramifies back through the communities themselves, generating demand for new local green industries, creating new green jobs, and ensuring that training and educational opportunities are in place for future cohorts of construction professionals dedicated to realising a net-zero world.

Our partner from the workers co-op said: **‘At its core, (the REHAP) project is about collaboration and getting people together in Preston to work around retrofit’**

Action on empty homes



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