



**NORTHERN
HOUSING
CONSORTIUM**
VOICE OF THE NORTH



REAL HOMES REAL CHANGE

MEETING THE NET ZERO CHALLENGE IN THE NORTH

The Northern Housing Consortium is the 'Voice of Housing in the North' working with local authorities, housing associations and ALMOs. Our members manage 9 out of 10 socially rented homes in the North. We work with members to influence the national policy agenda, using insights from our member engagement activities and a robust evidence base, including insights from our annual state-of-the-North Northern Housing Monitor.

The NHC is grateful to staff and residents from the member organisations involved for providing case studies and testimonials for this publication.

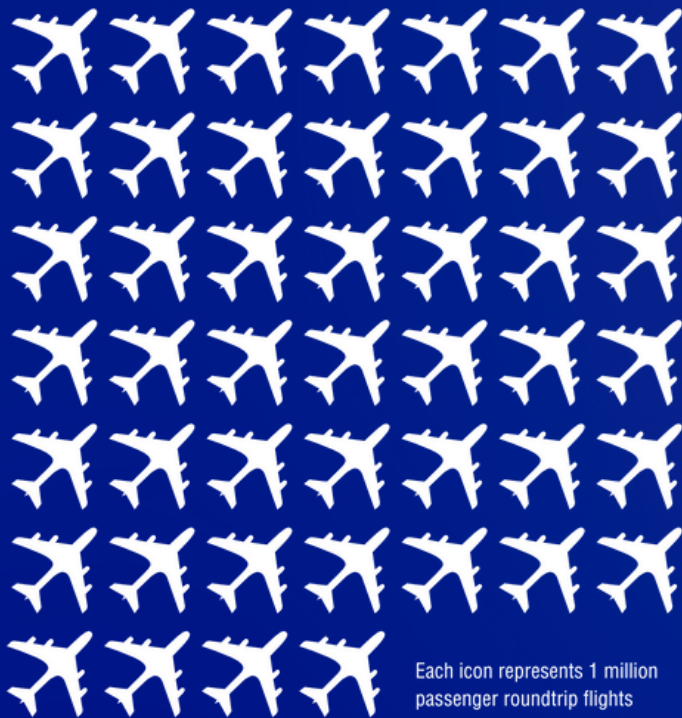


INTRODUCTION

There are around 7 million homes across the North – and they're contributing to climate change.

In fact, one-quarter of the North's emissions are attributable to our homes.

Over half the North's homes – almost 4 million – will require energy efficiency upgrades within the next 10 years. These upgrades are needed to get homes to the key Energy Performance Certificate (EPC) C energy efficiency benchmark, making them clean energy ready. But EPC C is just a first step to delivering net zero.



Each year, the North's homes are responsible for carbon dioxide emissions equivalent to over

46 MILLION

passengers' roundtrip air flights.

It's clear – the UK can't meet its net zero target without upgrading the North's existing homes. But the good news is the North's social housing sector is leading the way, delivering green home upgrades.

Our Real Homes, Real Change showcase provides some fantastic examples of the work being undertaken by Northern Housing Consortium members across the North.

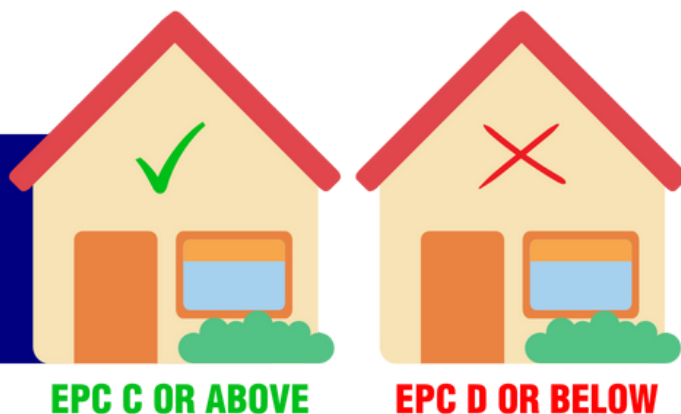
LOWER BILLS

We know upgrading and insulating homes cuts carbon – but crucially it’s also helping to tackle the cost of living.

It’s estimated that homes that don’t reach the key EPC C benchmark have cost an

EXTRA £680

or more to heat this year – compared to an equivalent EPC C home



Every home we upgrade puts money back into people’s pockets.

WARMER HOMES

The North has 1.3 million homes which do not meet the Government’s current decent homes standard. Around half of these are home to someone aged over 60, or with a long-term illness or disability.

Age UK estimates that cold homes cost the NHS in England £1.36 billion every year in hospital and primary care, due to their impact on older people’s health – retrofit schemes elsewhere in the UK have saved the NHS 42p for every £1 invested.

Insulating homes doesn’t just improve their efficiency – it makes them warmer and more comfortable to live in. Retrofit is an investment in our homes, our health, and our healthcare services.

GOOD, GREEN JOBS

Energy efficiency upgrades create thousands of good green jobs. Analysis by IPPR North for the Northern Housing Consortium found there is potential for 77,000 good green jobs across the North working on green home upgrades by the 2030s.



REAL HOMES, REAL CHANGE

As the examples in this showcase demonstrate, the North's housing sector has made a great start – but we need to keep it going. That means more government investment in real homes, to deliver real change.

The North's social housing sector manages more than 1 in 6 of the region's homes, and it's ramped up activity in recent years. Investment from the government's Social Housing Decarbonisation Fund (SHDF) has helped landlords make their own investments go further. You can see how government investment in the social housing home upgrades has increased in recent years – and every penny has been more than matched with money from social landlords' own resources.

SOCIAL HOUSING DECARBONISATION FUND INVESTMENT IN THE NORTH

GOVERNMENT INVESTMENT (£MS)



This work is beginning to reach scale – as examples in our Real Homes, Real Change showcase demonstrate.

But progress is at risk without further investment from government. The Department for Energy Security and Net Zero has now allocated all social housing decarbonisation funding from the current spending round. The cupboard is currently bare.

The North needs politicians from all parties to commit to an ambitious programme of investment in green home upgrades.

The Northern Housing Consortium is calling for a coordinated £6bn a year investment in home energy efficiency across all tenures – so together we can deliver more real change to real homes.

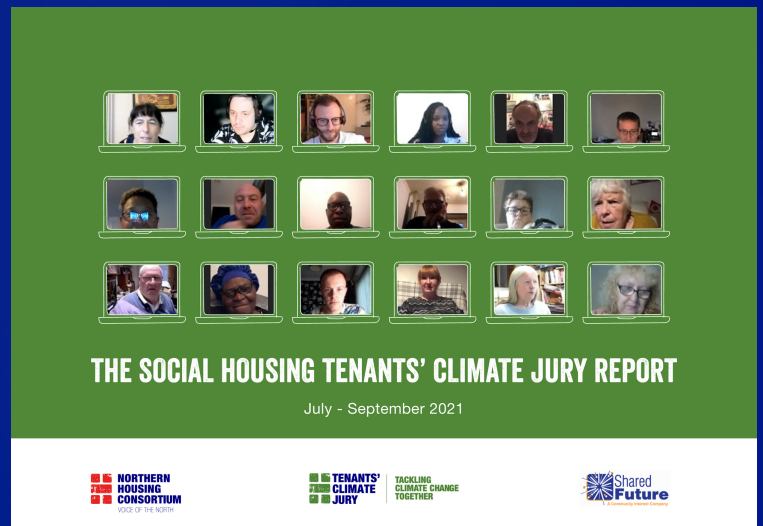
WHAT DO GREEN HOME UPGRADES INVOLVE?

Often the focus is on upgrading the energy efficiency of homes. This is important and stops heat leaking from homes, making them warmer. It usually involves adding insulation to lofts, walls and sometimes under floors too. Windows and doors are important, as is a good ventilation strategy.

To reach net zero, homes will need to transition away from mains gas towards clean energy. This is likely to involve the roll-out of heat pump technology. Some landlords are already installing heat pumps and we expect many more will be installed in the future.

WHAT DO RESIDENTS THINK?

Most residents welcome the chance to tackle rising energy bills and enjoy a warmer, healthier home. To make sure residents' views are at the heart of green home upgrades, the North's housing sector collaborated with tenants on a Social Housing Tenants' Climate Jury. You can find out more about the Jury and read recommendations from tenants and residents on our website <https://www.northern-consortium.org.uk/the-social-housing-tenants-climate-jury/>



FOR MORE INFORMATION ON THIS DOCUMENT PLEASE CONTACT

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This map shows the approx geographical location of each scheme

REAL CHANGE IN THE HOMES THAT NEED IT MOST



- ✓ Lower Bills
- ✓ Green Heating
- ✓ Warmer Homes

BACKGROUND

Through its Sustainability Strategy 2021-26, housing association First Choice Homes Oldham (FCHO) is working to decarbonise its homes. This will help tackle climate change and deliver a range of other benefits: from helping residents to save money, tackling fuel poverty and providing quality homes that are fit for the future; to boosting the economy and creating green jobs. The housing association owns and manages around 11,500 homes and around 10% of the local population live in a FCHO home.

ACTION

FCHO delivered a whole house retrofit project from October 2021 to September 2022 on six of its least energy efficient properties across the Borough of Oldham, to help cut carbon emissions and reduce energy bills for residents. The aim was to create a scalable blueprint for how it would improve the energy efficiency of many more of its homes and achieve its ambitious sustainability plans.

The housing association identified six properties with poor energy performance, a mix of terraced houses and bungalows built between the 1930s and 1970s. They worked with a local contractor to plan the upgrades, which were tailored to each home's requirements.

The housing association worked with residents in neighbourhoods across the borough to agree and install measures such as solar panels, triple glazed windows, new doors, and cavity wall insulation – all carefully tailored to each of the homes' requirements. One home also had its gas central heating system replaced with renewable energy technology in the form of an air source heat pump (ASHP).

Throughout the retrofit programme, the FCHO team and contractors kept in regular contact with residents, answering questions, scheduling work to minimise disruption and informing them about progress with the works. FCHO was also involved in the Social Housing Tenants' Climate Jury which saw 30 social housing tenants produce a set of recommendations to the sector on how to work together to tackle climate change in our homes and neighbourhoods.

Making energy efficiency improvements to existing homes is a significant part of FCHO's plan. Improving their energy performance will help the housing association move closer to ambitious net zero carbon targets and make a positive difference to residents and communities.

FUNDING



FCHO received £30,000 from the government funded Green Homes Grant to support the pilot project and the housing association contributed £220,000. Further funding from Social Housing Decarbonisation Fund has since been secured to build on the project's success.



THE IMPACT

The investment has led to a significant improvement in the energy efficiency of all six properties – bringing the homes up to Energy Performance Certificate (EPC) B, from band D or E.

FCHO predicts that the modifications will also save each home around £400 per year on their energy bills. The housing association will be monitoring energy consumption through smart thermostats over the coming years and working with residents to minimise their energy use and increase cost savings.

“

I KNOW WHEN I PUT MY HEATING ON NOW, THE HOUSE STAYS WARMER FOR LONGER WHEN IT'S GONE OFF, SO THE TRIPLE GLAZING AND NEW DOORS ARE REALLY MAKING A DIFFERENCE TO ME.

FCHO resident, Glenys Evans

”

DR DELROY BEVERLEY, CHIEF EXECUTIVE AT FIRST CHOICE HOMES OLDHAM SAID:

“

This exciting pilot programme has been a crucial step in our ambitious retrofit journey and achieving our net zero carbon targets. We are a responsible landlord and as part of taking these types of societal decisions, we do so knowing that the next generation are relying on us to do the right thing, especially on net zero carbon targets. ”

“

Vital learning from the project is informing how we deliver important improvements to more of our customers' homes, ultimately providing properties that are more energy efficient, warmer and with lower energy bills for customers and benefitting the environment. ”



LESSONS LEARNT

The pilot has enabled the team to explore the benefits of retrofitting compared with replacing older homes with energy efficient new-build homes, see the impact that sustainable technologies can have, as well as develop an understanding of the size of the retrofitting challenge ahead.

Residents having a positive experience is important. Resident feedback and engagement has highlighted potential barriers to energy efficiency uptake and how important it is for residents to have a positive experience of the work – before, during and after it has taken place.

FUTURE PLANS

FCHO is already using learning from the retrofit pilot to inform work to improve the energy performance of many more of its homes. It is also utilising grant funding combined with internal investment to move closer to its target of retrofitting energy efficiency measures to a significant proportion of its homes by 2030 and achieving its net zero carbon targets.

In 2022, the housing provider was awarded £1 million funding from the government's Social Housing Decarbonisation Fund (SHDF) wave one and contributed £600,000 to retrofit 200 FCHO-owned homes with energy saving technologies that will help cut residents' gas and/or electric bills by up to a third.

In spring 2023, FCHO successfully secured £2.4 million of funding from SHDF wave two and committed £3 million to deliver green upgrades to a further 360 social homes that have an EPC rating below C. The work represents the third largest SHDF programme across Greater Manchester and will be delivered by March 2025.



Leeds
CITY COUNCIL

REAL CHANGE IN NEIGHBOURHOODS THAT NEED IT MOST

- ✓ Lower Bills
- ✓ Warmer Homes

BACKGROUND

Leeds' 54,000 council-owned homes continue to play an important role in the city. The city's council houses range from pre-1914 traditional brick homes to homes built using modern methods of construction as part of the city's commitment to 1,500 new council houses by 2025. Like most big cities, Leeds has a large amount of older housing, concentrated in poorer neighbourhoods and has 19,500 pre-1919 back-to-back houses still in use.

Some areas of Leeds fall within the top 1% of deprivation nationally. To address the multitude of issues these areas had, Leeds City council developed the 'Priority Neighbourhoods' approach. Areas included were extremely deprived, coupled with poor housing, empty homes and social issues. In recent years, the Council has aimed to bring together multiple funding streams to increase energy efficiency and help to improve the lives of people in these communities.

ACTION

Once the funding was secured, the council undertook a means assessment of each property to assess how much each would be required to pay. For private rented properties, the landlord was charged 25% of the costs of renovation, for owner occupied, the residents paid 0-25% depending on their income levels. In these priority neighbourhoods, owners are often expected to pay very little.

As with many projects, initially uptake was slow from private properties. Therefore, Leeds prioritised retrofitting 40 council houses at the start of Phase 1 to show the improvement and to start conversations, this created a snowball effect and private landlords and homeowners began to want the works too.

The council worked to identify the homes with the greatest need for retrofit, including external wall insulation (EWI), room in roof insulation, new windows, new doors and central heating. Prior to installing insulation, the project also dealt with existing disrepairs (i.e. leaking roofs, lack of damp proof courses, repointing) to bring the whole home up to a high standard.

The council utilised a disused building in the community as a site office, to enable the smooth delivery of materials but also to become a presence within the community. This enabled them to develop a holistic approach where residents could access other council services including money saving advice and fire safety checks.

The project focused on addressing fuel poverty, improving energy efficiency, overcoming funding barriers, improving building and social fabric and using a holistic approach to transform each community, one by one. One of these priority neighbourhoods was the inner-city area of Holbeck, which is made up of back-to-back terraces and both low and high-rise tower blocks.

FUNDING

To fund the two phases of the project, the council combined various sources of funding including ECO funding, the West Yorkshire Combined Authority/Local Economic Partnership funding and Green Homes Grant Local Authority Delivery (LAD) scheme funding, with private landlords also contributing around 25%. This enabled the council to renovate over 300 properties, around 70 of which were social homes. The mix of contributions illustrates how difficult it is to assemble project funding for this kind of whole-place, multi-tenure work.

THE IMPACT

By focusing on regeneration works, particularly EWI, the council were able to drastically improve both the costs of heating homes and the look of the neighbourhood. They retrofitted 330 properties, transforming the lives of the residents, increasing pride in their neighbourhood and stimulating more residents to undertake their own home improvements, in turn further regenerating the area.

The council also worked with Leeds Beckett University to monitor and evaluate the success of the retrofits. Their study found that prior to renovation, the average temperature in some homes was 12 degrees. Following renovation, this rose to 18 degrees.



The council received positive anecdotal feedback from residents explaining how the works had transformed their lives. One mother of four described the difficulties she had keeping her home warm prior to the work and now, the children have an affordably warm home where they can do their homework.

Phase 1 was so well received by local residents that when the council announced phase 2 of the project, 90% of targeted properties had signed up within a month. The council updated Energy Performance Certificates (EPCs) for all homes, finding that on average each property saved 2.5 tonnes of CO2 per year, giving a total saving of 84 tonnes of carbon across the lifetime of each home, and a saving of around 25%.

LESSONS LEARNT

Using social housing as a demonstrator creates a snowball effect. The council found this encouraged private landlords and owners to join the project. Increased pride in the area led to further home improvement works.

A holistic approach, incorporating social value works with energy efficiency is important. Reaching the community with an offer that benefited the community in many ways, rather than focusing just on energy efficiency, was key to uptake.

Having a long-term relationship with a contractor is invaluable. Particularly where the contractor also builds relationships and trust in the community and has local knowledge.

FUTURE PLANS

The council want to continue work in this area. There are around 1,700 very similar back-to-back homes in the location, strong interest from the community and the council has identified and prepared around 250 more properties they wish to include – so there is a shovel ready project.

The stumbling blocks for undertaking this project are: cost, the council requires upward of £50 million for these 1,700 homes, and policy, the main government funding streams are currently split by tenure/heating fuel and are not designed to be brought together into whole place packages for mixed tenure communities.

The council would be very keen to run a large-scale demonstrator to help industry and policymakers to learn how a place-based approach can be both more cost-effective in delivery and make a transformational change to an area – addressing fuel poverty, carbon emissions and social deprivation.

karbon homes

TWO PROJECTS MAKING REAL CHANGE FOR RESIDENTS IN COUNTY DURHAM AND NORTHUMBERLAND



- ✓ Lower Bills
- ✓ Green Heating
- ✓ Warmer Homes

BACKGROUND

Karbon Homes owns and manages close to 30,000 homes across the North East and Yorkshire. The housing provider is rising to the government's Clean Growth Strategy targets of all homes achieving an Energy Performance Certificate (EPC) C rating by 2030 and net zero by 2050.

With the rising cost of energy, paired with an increased awareness of the impact homes have on the environment, Karbon is working with its residents across the North East to retrofit their homes and install greener heating options which could reduce their household bills.

ACTION

The £2.5 million retrofit programme, delivered in partnership with Durham County Council and Northumberland County Council, has seen homes in the villages of Ouston and Otterburn fitted with measures including fitting external wall, cavity, loft and underfloor insulation, new roofs and PV panels.

As well as lowering the carbon emissions the homes produce by hundreds of kilograms, these measures could help residents save up to 40% on their energy bills. The works also mean the homes are less susceptible to damp and mould; and the wider community benefits from an improved street scene.

As part of the renewable heat project, Karbon fitted almost 350 air source heat pumps (ASHPs) into rural homes across Northumberland and County Durham that are off the gas grid and currently powered by solid fuel. As well as helping residents to save money on fuel, the work also supports the UK Government's commitment to reach net zero carbon emissions by 2050.

ASHPs are a renewable and more efficient alternative to the traditional heating and hot water systems powered by fossil fuels. They absorb heat from the outside air, boost it to a higher temperature using a compressor, and transfer it to the heating system when needed. The pump can absorb heat even in extremely low temperatures, making them effective all year round.

Karbon embarked on two projects across County Durham and Northumberland, one was a retrofit programme which saw them install energy improvement works to 97 homes, including fitting external wall, cavity, loft and underfloor insulation, new roofs and PV panels. The other was a renewable heat project where 350 air source heat pumps were fitted into rural, off grid homes that were previously powered by solid fuel.

FUNDING



The £2.5 million retrofit programme was funded with support from the government's Social Housing Decarbonisation Fund (SHDF). The renewable heat project was largely self-funded by Karbon, as part of its planned investment programme, and was boosted by the government's renewable heat incentive (RHI).

THE IMPACT

Claire and Stephen Riddell had an air source heating system installed in their Karbon bungalow in Otterburn as part of the renewable heat project. The couple can't speak highly enough of the technology, which they claim has not only drastically reduced their heating and hot water bills but has also helped lower their carbon footprint.

Stephen said: "Turned on for just a few hours on an evening, the house is warmed up lovely and stays warm through the night, and the system is also really environmentally friendly. Global warming is happening and I worry for the likes of my daughter and grandkids."

Karbon resident Colin Barnes has seen his home benefit from the retrofit programme. Colin said:

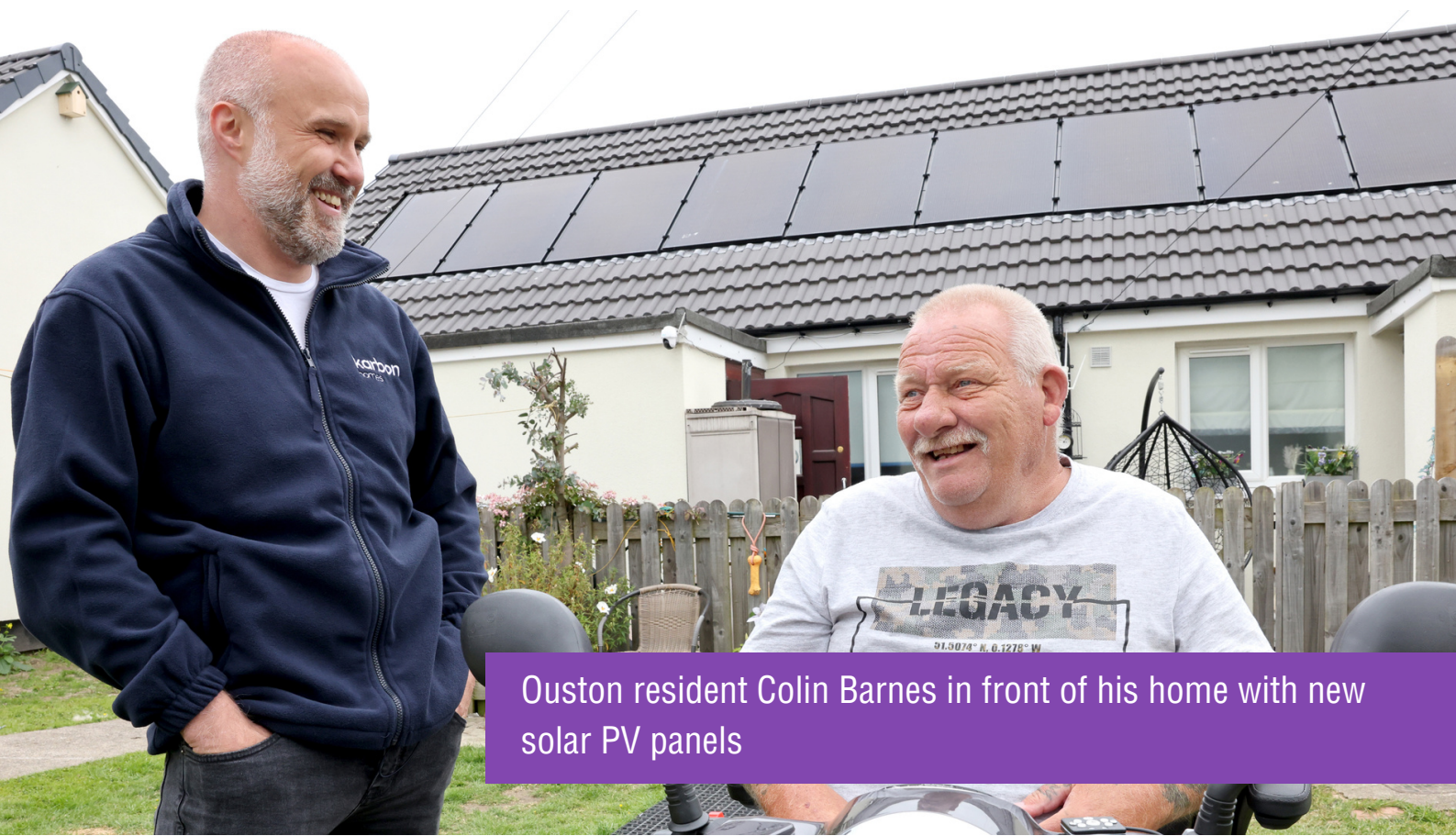
“

My home must be about 70 years old. It really needed modernising so it could be warmer and stronger. The programme has given it a total overhaul. It's incredible really. The work has included more insulation as well as improvements to the roof.

There were bits and pieces of mess along the way, but that's to be expected when it's such a big job. RE:GEN, the team handing the works, were excellent. They kept me informed of what was going on and helped me with anything I couldn't manage myself. It's well worth a little bit of inconvenience for years of future benefits.

The difference it makes to the warmth of the house was immediate and really noticeable. I just pop the heating on for 20 minutes at a time because the house stays warm for so long.

”



Ouston resident Colin Barnes in front of his home with new solar PV panels

LESSONS LEARNT

Allow time for the administrative elements. Due to the scale of the retrofit project, there were various administrative and organisational elements that needed completing before any works could start on site. This resulted in some delays to the project timeline which, because of the outlined funding delivery window, meant works were forced to take place during the winter months. Some of the works were quite sensitive to weather conditions so working through winter, of which 2022/23 was a particularly wet and cold winter, added further delays than anticipated. Karbon Homes will be factoring this learning into future projects and, where possible, the programme will be managed so that works are carried out when conditions will not stop play. Longer term funding programmes would offer more flexibility which would help providers to avoid this.

Recognise that moving to a new heating system can be a big change for residents. As the project has progressed, Karbon's understanding has increased around the levels of support residents need to ensure they can fully benefit and make the most of the change. This varies from ensuring residents fully understand how to use the system to helping them to recognise the most efficient and cost-effective way to run it. The resources Karbon offer and levels of support they provide to residents have developed as the programme has progressed.

Karbon was also involved in the Social Housing Tenants' Climate Jury which saw 30 social housing tenants produce a set of recommendations to the sector on how to work together to tackle climate change in our homes and neighbourhoods.

FUTURE PLANS

Over the next two years Karbon Homes will be investing a further £3.6 million in improving the energy efficiency of 218 more homes in Northumberland and County Durham.

These homes will benefit from a mix of insulation including external wall, underfloor, cavity wall and loft top-ups. Some will also be fitted with Solar PV panels.

These further improvements have been supported by a grant from Wave 2 of the SHDF and will contribute towards a wider £80 million retrofit investment across the North East and Yorkshire, delivered by a consortium of 18 housing associations, councils and ALMOs in the region and led by the North East and Yorkshire Net Zero Hub.

“

THE AIR SOURCE HEAT PUMP IS ABSOLUTELY FANTASTIC, I COULDN'T SPEAK MORE HIGHLY OF IT. I SOMETIMES WONDER HOW SOMETHING SO SIMPLE CAN BE SO EFFECTIVE, WE SWEAR BY OURS.

Karbon resident, Stephen Riddell

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Claire and Stephen Riddell can't speak highly enough of their new ASHP in their home in Otterburn, Northumberland.



REAL CHANGE WITH LOW-CARBON HEATING SYSTEMS



- ✓ Lower Bills
- ✓ Green Heating
- ✓ Warmer Homes

BACKGROUND

Broadacres is a housing provider which owns and manages more than 6,000 homes and has stock in North Yorkshire and the surrounding areas.

The housing provider now fits air source heat pumps (ASHP) as standard in every new home it builds. As well as new homes, Broadacres has been running an ASHP retrofit programme for a number of years.

This forms part of the housing provider's Sustainability Strategy, which outlines a roadmap that will lead to all its homes and operations having net zero carbon emissions by 2050.

ACTION

Over the last 18 months Broadacres has installed 150 ASHPs in existing homes.

In total there are now ASHPs fitted in 735 of Broadacres' homes, representing more than 10% of its entire stock. The ASHPs are being installed in homes in areas without access to mains gas, replacing oil and LPG central heating and storage heater systems. Residents were supported through the process by Broadacres' team of dedicated Customer Liaison Officers, who work especially closely with vulnerable residents to provide practical support and reassurance as work is carried out. Where necessary, loft insulation is installed at the same time, to improve the energy efficiency of the home at the same time as upgrading the heating.

Alongside this, Broadacres is currently working on a pilot project which has involved taking four unoccupied properties in Northallerton, Stokesley and Myton-on-Swale, near York, and carrying out a deep retrofit programme which will make the homes net zero ready.

The retrofit homes have undergone structural and layout alterations, had new insulated concrete floors installed, external wall insulation (EWI) and stringent air tightness measures and tests completed. Solar PV panels have been installed on them, along with ASHPs and mechanical ventilation heat recovery systems. All homes are now Energy Performance Certificate (EPC) Band A, making them some of the most efficient of Broadacres' entire stock.

FUNDING



Previously this work has been supported through funding from the Warm Homes Fund and through Renewable Heat Incentive payments. Broadacres also contributed significantly to the works from its own budgets, around £2 million per year. Any funding in addition to this enables the provider to undertake even more work on decarbonising its homes. Over the coming two years, Broadacres will be retrofitting ASHPs in an additional 70 homes, as well as installing solar PV in 400 homes, floor insulation in 200 homes and loft insulation in 130 homes. This work will be made possible through funding from Wave 2.1 of the Social Housing Decarbonisation Fund alongside self-funding from the housing association.

The housing association's ambition was to learn lessons from the project and roll these out across the rest of its stock. For this reason, most work was carried out by in-house operatives and by existing contractors local to the area and overseen by its in-house Retrofit Coordinator. The housing association took this approach, rather than commissioning a main contractor, to maximise learning from the project and they worked closely with contractors and in-house operatives to help improve learning about retrofit. Broadacres' in-house trades learned lots of new skills mainly around air tightness techniques, installing the Winframer system and the correct sequencing of measures. They guided their existing contractors to install ASHPs, waste water heat recovery and whole house ventilation systems.

THE IMPACT

EPC data demonstrates that Broadacres' retrofit project has lowered customers' bills and modelled EPC data shows that the current SHDF Wave 2.1 project will lower bills in the future.

Thirsk and Malton MP Kevin Hollinrake said:

"Broadacres has an exciting future ahead and their commitment to building energy efficient homes is commendable. It was great to see the impact this has already had on Mrs Smith in terms of lowering her fuel bills while also lowering emissions and shows why the Government's target of 600,000 heat pump installations a year by 2028 is so important."

LESSONS LEARNT

Embed learning into business-as-usual. Delivering the retrofit project has enabled Broadacres to capture some important lessons learnt. They have created a 10-point action plan to embed the learning from the project into business-as-usual activity. This includes identifying which energy efficiency works can be carried out at different intervention points, investing in colleagues' knowledge, skills and understanding, enhancing specifications for all investment works and sharing learning with others.

Bring colleagues along on the retrofit journey. The housing association is re-writing the specification it uses for works carried out when homes are empty, before new tenants move in. By carrying out before and after air tightness testing on a selection of empty homes, as they did in the retrofit project, they can demonstrate the effectiveness of air tightness measures. Going forward Broadacres will require a minimum of 300mm of loft insulation, key draft proofing measures and low energy light bulbs to be installed at all homes before they are relet. This work is being done collaboratively with the teams involved to bring colleagues along on the retrofit journey.

Invest in training to improve knowledge around retrofit. Broadacres is investing in its colleagues' knowledge, skills and understanding by rolling out Level 2 and 3 retrofit training to 13 colleagues within the property services team. This, combined with Carbon Literacy training, which is available for all staff, will help to engage and motivate colleagues to undertake high quality energy efficiency improvements.

Share learning across the sector. Broadacres are committed to sharing learning with other housing providers and stakeholders and have run a series of open days to showcase this retrofit project.



MY OLD HEATING SYSTEM WAS SO EXPENSIVE SO UNTIL THE HEAT PUMP WAS INSTALLED, I USED A LOG BURNER AND HAD TO KEEP ALL THE DOORS IN THE HOUSE OPEN TO TRY TO CIRCULATE THE HEAT.

THE HEAT PUMP IS BRILLIANT BECAUSE IT PROVIDES A NICE SOURCE OF AFFORDABLE HEAT THROUGHOUT THE WHOLE HOME."

Resident Mrs Smith



FUTURE PLANS

In reality, completing the deep retrofit work on these four homes is just the start of the story and the work is just beginning. The key innovation of this project is not what it has achieved to date, but how it will continue to influence retrofit work at Broadacres over the coming decades. The project team has developed close relationships with the Property Services and Development teams, so the learning from this project is embedded into business-as-usual activities throughout the organisation.

Once people move into the pilot project homes Broadacres intends to work closely with them to capture feedback about what it is like to live in a retrofitted home. They will be monitoring the efficiency of the properties, including recording the internal temperature, air quality and humidity.

Ultimately, this pilot project could pave the way for all of Broadacres properties to undergo similar work to deliver the carbon neutral homes of the future.

Broadacres has been allocated £2.4 million under wave 2.1 of the Social Housing Decarbonisation Fund. This funding will enable them to retrofit 400 homes over the next few years, installing solar photovoltaic panels, ASHPs, underfloor insulation and loft insulation. This work forms a key part of the housing association's ambition to achieve minimum SAP 69 by 2028, as all homes receiving measures will be EPC Band C or B following the work.

Broadacres now fits air source heat pumps as standard in every new home it builds across its operating area of North Yorkshire and surrounding areas. For example, at Sowerby, near Thirsk, residents have begun to move into a 97-home development which will be heated by ASHP. This also marks the first time Broadacres has used renewable energy on a scheme where a gas connection is available.



Broadacres staff in front of a retrofitted home in North Yorkshire.



Helen Simpson (Chair of Broadacres' Board), local MP Kevin Holinrake and Broadacres' resident Mrs Smith at her retrofitted home in Stillington, North Yorkshire.

REAL CHANGE MAKING HOMES WARMER WITH INSULATION



- ✓ Lower Bills
- ✓ Warmer Homes

BACKGROUND

Together Housing Group is one of the country's largest social landlords, owning and managing over 36,000 homes, primarily in Yorkshire and Lancashire. Key concentrations of properties are found in Blackburn with Darwen, Calderdale, Pendle and Rossendale.

The housing association has installed external wall insulation to benefit 68 families in the Calderdale village of Illingworth. This project is part of Together Housing's plan to invest £120 million in green energy projects in its communities and move fully away from fossil fuels by 2035.

So far, it has completed more than 3,000 renewable energy projects as it looks to halve its operational carbon impact by 2030.

FUNDING



The £1.5 million work has been part funded by a £774,000 grant from the first wave of the Social Housing Decarbonisation Fund (SHDF), organised by the UK Government.

ACTION

Residents living in four blocks of low-rise flats in Illingworth near Halifax are benefitting from external wall insulation (EWI), designed to create warmer, efficient homes with lower energy bills.

Each property benefitted from an additional 100mm of sustainable, non-combustible, and thermally efficient insulation, before a thin self-cleaning render was applied to give them a whole new look. The project could help to save each flat, on average, £169 a year on the energy bill. This is an environmental saving of, on average, 900kg of CO2 a year.

The initial works took around six weeks to complete and has improved each flat's Energy Performance Certificate (EPC) from a D rating to at least EPC C rating.

The properties will also switch from gas central heating to renewable energy sources like solar panels and heat pumps in the future to further reduce their carbon impact and help to save on energy costs.



THE IMPACT

One of the residents who benefitted from the works last year was 72-year old Harold Hebblewhite, who said at the time:

WE WERE COPING BUT IT'S BEEN A DECENT SUMMER. WITH THE TEMPERATURES DROPPING, WE CAN ALREADY FEEL THAT IT'S MAKING A DIFFERENCE. I DON'T FEEL THE COLD SO MUCH, BUT MY WIFE DOES. AND WITH THE COST-OF-LIVING CRISIS, IT'S VERY GOOD TO KNOW THAT IT WILL HELP WITH BILLS.



WE KNEW THERE'D BE A BIT OF DRILLING AND DISRUPTION, BUT THE WORKMEN HAVE BEEN GREAT AND HAVE GOT THE WORK DONE REALLY QUICKLY. IT'S GREAT THAT IT'S DONE BEFORE CHRISTMAS.

PATRICK BERRY, DIRECTOR OF TOGETHER NET ZERO, SAID:

We have quite a lot of homes which are non-traditional builds with little or no insulation. They can be quite expensive to heat and expensive to bring up to our standard.

The way they're built means we have to think differently about the way we insulate them and thanks to this funding from the government we've been able to work with our partners to identify our homes most in need and provide low-carbon solutions to help them operate efficiently. And through changing the heating systems and making a significant impact on the aesthetics of older buildings like this, we're really making a difference.

LESSONS LEARNT

Improved understanding of financial reporting, costs and underspends. This was the first project for Together Net Zero delivering EWI to a block so there was no frame of reference of the cost. There was an overestimation of costs and therefore the project was left with a large underspend. It is difficult to track costs on block work as opposed to a traditional house, this caused a delay in reporting the underspend as the anticipated large final bill simply didn't arrive. Together now have a much more accurate idea of costs along the EWI journey – including administration and ancillary costs – how they are spread and what they are likely to cost from the outset.

Approvals from the electricity distribution network operator for an ASHP application do not necessarily mean that it is possible to install an ASHP. It is best to do a further study of the mains cables going into the block and the individual fuses in the properties.

Where there is a valid EPC D or below at the time of grant approval; and circumstances have changed between then and the retrofit assessments being done, it is better to use an energy performance report, so as to not override the valid EPC.

FUTURE PLANS

Together Housing's future plans from the SHDF Wave 1 project are to deliver an SHDF Wave 2 project. The housing association secured £9.6 million in funding with a further £9.6 million co-funding secured to deliver fabric measures to 2,237 homes across the North of England. This includes 2,006 properties receiving light retrofit measures such as cavity wall, underfloor and loft insulation, 77 'off-grid' properties receiving air source heat pumps with associated insulation measures and a direct continuation of the Wave 1 scheme with the EWI element being scaled up from 68 properties to 154 properties. They are also tackling blocks with more intricacies such as planning, boundary issues and access issues.

believe housing

REAL CHANGE AT SCALE FOR COUNTY DURHAM HOMES

- ✓ Lower Bills
- ✓ Warmer Homes

BACKGROUND

Decarbonisation is a significant delivery target for believe housing, which manages around 19,000 homes across County Durham and beyond. Believe received funding from Waves 1 and 2.1 of the Social Housing Decarbonisation Fund (SHDF).

A programme of energy efficiency works will make sure all its homes are rated Energy Performance Certificate (EPC) C or above by 2030, with those most in need upgraded first.

ACTION

Using the funding light-touch measures were delivered at scale. More than 1,100 homes received measures including loft and cavity wall insulation to prevent heat loss through walls and the roof, internal door vents to achieve cross flow ventilation, heating controls, and energy efficient lighting.

Other action by believe housing included fitting oversized radiators during a central heating upgrade so a clean heat solution can be installed at the next lifecycle, without needing a whole system replacement. Also, maximum depth loft top-ups were undertaken during retrofit and re-roofing works.

RUTH DENT, DIRECTOR OF ASSETS AND COMPLIANCE AT BELIEVE HOUSING, SAID:

SOME GREAT COLLABORATIVE WORK WENT INTO BOTH SUCCESSFUL BIDS, WHICH IS ENABLING US TO MAKE HOMES WARMER AND HEALTHIER FOR CUSTOMERS, SAVE THEM MONEY ON THEIR ENERGY BILLS, AND REDUCE OUR PROPERTIES' CARBON FOOTPRINT.

This work will help create healthy homes, support customers, reduce housing's impact on climate change, and support the regional and green economies.

All of this would be supported if further grant funding is available and a local workforce with the right skills is available to deliver.

FUNDING



Believe housing was one of five housing associations in a Durham County Council-led consortium, which secured £6 million from SHDF Wave 1.

With match-funding from the housing providers, the value of the wider project was close to £10m.

The biggest share of this SHDF funding, almost £3.4 million, went to believe housing and it invested an additional £1.69 million in the scheme.

THE IMPACT

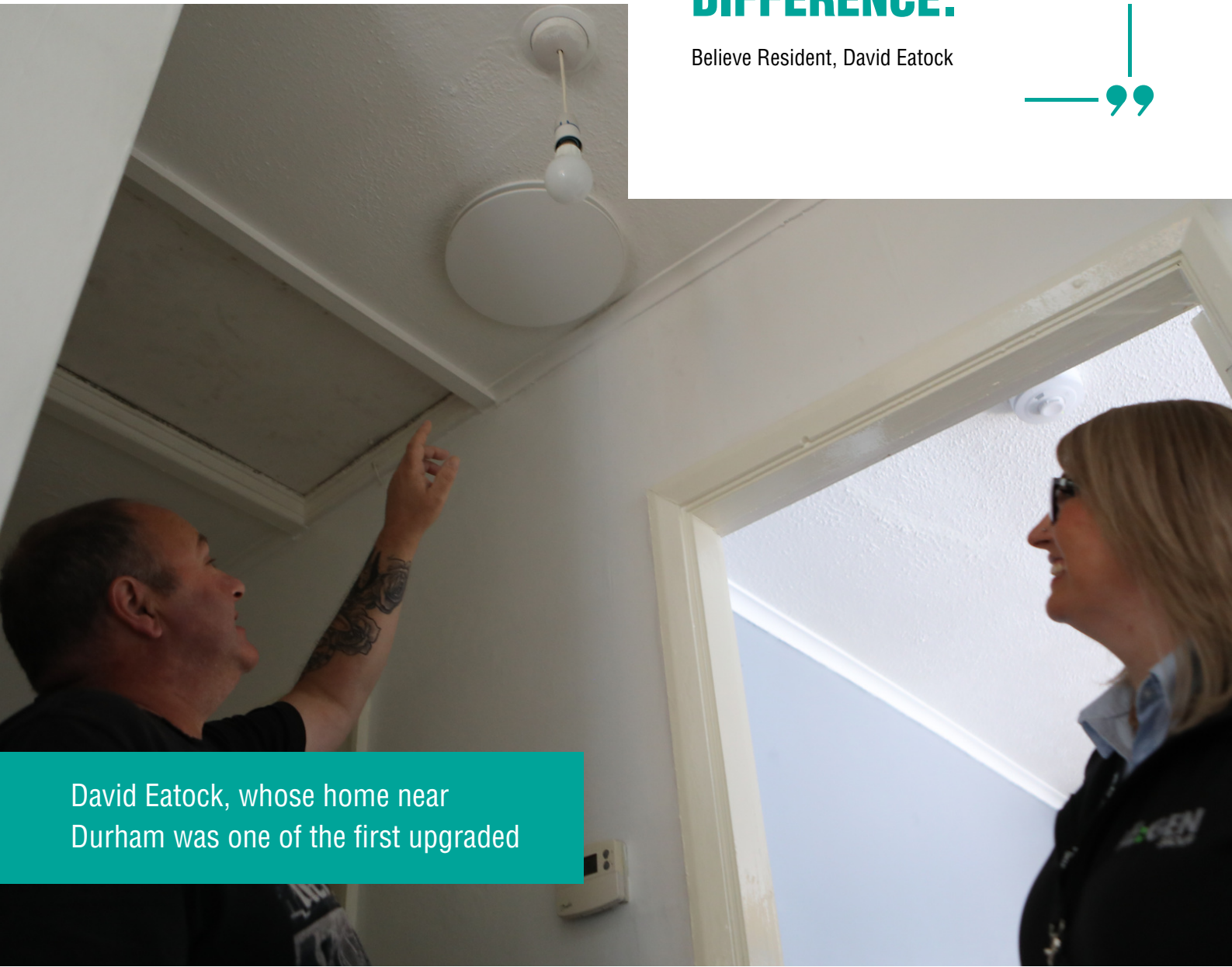
There was 97% resident satisfaction across the scheme, which was delivered by 100% local labour. Together, the measures will benefit residents by making their homes warmer, greener, cheaper and healthier. For example, cavity wall insulation saves 25% to 33% heat loss through walls and a quarter of heat is lost through the roof in an uninsulated home. Keeping heat in means tenants may be able to reduce energy consumption and their bills can be less than they would otherwise be.

Every 100W incandescent bulb replaced by an LED bulb could save up to £13 per bulb per year, according to the Energy Saving Trust.

Also, improved ventilation ensures air can move around a property to avoid build-up of stale air in any room, to reduce condensation and mould risks.

“
IT'S NOT COST ME ANYTHING. IF IT IS GOING TO SAVE ME MONEY ON BILLS AND THINGS, WHY WOULD YOU NOT GET IT DONE? THERE WAS NO DISRUPTION AND IT'S MADE A HELL OF A DIFFERENCE.

Believe Resident, David Eatock



David Eatock, whose home near Durham was one of the first upgraded

LESSONS LEARNT

Streamline surveys and checks to reduce disruption. Despite a focus on low-disruption measures, the requirements of PAS:2035 meant a lot of different surveys and checks were needed. Streamlining these as much as possible, for example by carrying out a post-works EPC at the same time as handover of works, helped to cut down on disruption to residents, improved access rates, and sped up the processing of paperwork.

Use information gained from initial surveys to improve targeting in future projects. Initial surveys determine early on if work is needed. Homes that can't progress under the funded scheme are dropped as early as possible. Information from those surveys is fed back into the list of targeted addresses, so properties of a similar archetype can be given a lower priority for a survey. This ensures best value and use of resources. Over time, there should be a higher rate of success with the addresses targeted. Even where works don't proceed, valuable property data has been obtained.

Prepare for a lot of administration and take a collaborative approach. Administration for the scheme was a greater burden than expected. Streamlining the process with a minimum number of live progress trackers shared between sub-contractors, principal contractor, and housing association eased this. A collaborative approach to paperwork ensured reporting and information to be held on asset databases is accurate and increased the wider team's knowledge of processes such as EPC surveys.

Customer facing coordinators will help improve access. Despite the cost-of-living crisis, some residents did not engage or want the works. Providing the contractor's customer experience co-ordinators with a believe housing phone number helped improve access, as did the contractors' flexible approach to delivery.


FUTURE PLANS

For SHDF Wave 2.1, believe housing joined the North East and Yorkshire bid, led by the North East & Yorkshire Net Zero Hub and supported by Tees Valley Combined Authority. The £32.4 million grant from the Department for Energy Security and Net Zero and £48.2 million from consortium partners will deliver £80.6m of upgrades to 5,525 homes.

For believe housing, that will mean a £13.7m scheme to improve the energy efficiency of at least 2,000 further homes. As before, the scheme of works will focus on homes with an EPC rating below C, which will most benefit from the work. About half of these homes will get low level measures, similar to those completed in Wave 1. Others will get more extensive measures such as external wall insulation, floor insulation, or solar panels to generate clean electricity.



Rosemary Beer, the 500th believe housing customer to have work done on her home during the first SHDF programme, with RE:GEN Group's CEO Lee Francis, Director of Assets and Compliance at believe housing Ruth Dent, and believe housing Board Member John Marshall.



Light touch measures such as installing energy efficient lighting have helped to create real change

**RUTH DENT, DIRECTOR OF ASSETS AND COMPLIANCE
AT BELIEVE HOUSING, SAID:**

“

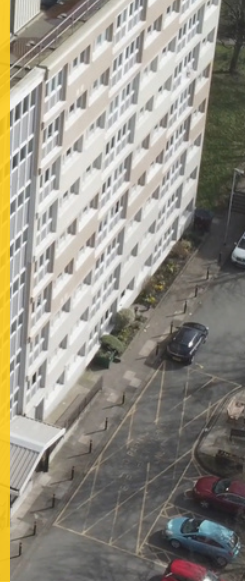
I think it is vital that the North East is at the forefront, so our people and economy feel the benefits, as we reduce emissions. A Future Homes Roadmap commits believe housing to incremental changes in how new homes are designed, constructed and powered. It lays out the housing association’s ambitions for delivering homes fit for the future, around the core principles of energy efficiency, low carbon heating and renewable energy technologies.

”



MANCHESTER
CITY COUNCIL

REAL CHANGE THROUGH SHARED GREEN HEATING



- ✓ Green Heating
- ✓ Warmer Homes

BACKGROUND

Around a quarter of the city of Manchester's emissions come from housing. Manchester has a target of being a zero carbon city by 2038 and has a housing strategy of retrofitting 33% of all social housing in the city to Energy Performance Certificate (EPC) B by 2032. Homes as Energy Systems (HAES) is an ERDF-funded project, delivering an estimated 1,000 retrofit interventions in the Greater Manchester region. The project aims to increase the energy efficiency in the housing sector and decrease the annual greenhouse gas emissions by 2,750 tonnes.

ACTION

Manchester City Council replaced an inefficient communal gas boiler system with a shared loop ground source heat pump (GSHP) system at Liverton Court, a housing complex in Blackley. The installation includes a shared ground array, with 7 miles of pipework, and individual GSHP units to each flat in the block. The project is part of the council's wider ambitions to retrofit its 16,000 properties to achieve zero carbon for its housing stock by 2038.

Homes where heating is at a set temperature consume, on average, 1.2 kWh less electricity per day, equivalent to circa 0.25 kg less CO₂. In addition, properties maintain a 1.5°C higher temperature than those where residents select inconstant and intermittent heating preferences. Only 35 households out of the 70 flats were using their heating consistently before the GSHPs were installed in the tower block.

Manchester City Council is retrofitting 540 properties through the scheme, with measures including ground and air source heat pumps (ASHPs) to replace inefficient communal and individual gas boilers, photovoltaic systems, batteries and smart heating controls.

FUNDING



£6.9 million of the total £13.8 million was provided by the European Regional Development Fund (ERDF) – with the rest being funded by Manchester City Council.



THE IMPACT

After the installation it was found that the heating was switched on more consistently, resulting in warmer, more comfortable homes for the residents.

The 35 residents who had previously used their heating experienced a small increase in their energy bills on average, some of this was due to the increased reliability of the system. Energy advice was provided to all those whose bills had increased (approximately half of the residents), to allow better control of temperatures and changing of settings, for example while away from home. The provision of tailored energy advice was seen as key to lowering tenant bills and maximising the carbon benefits of the GSHP system.

Benefits from the project included emissions savings of 63 tCO₂e per year and cost savings of £10,000 for the council. The modest initial increase in tenant energy bills was addressed through advice and guidance and residents benefited from warmer, more comfortable homes. There was also a high level of resident satisfaction during works and an improved reliability of the systems, which resulted in less disruption to residents as there were fewer repairs required. This project demonstrates the value of collaboration across housing providers, residents, academia, installers, technology suppliers and others.



THE COST. WE WERE ALWAYS WORRIED ABOUT IT GOING OVER THE TOP. IT HASN'T, AND IN FACT IN A WAY, I THINK IT'S COME DOWN... IT'S A LOVELY PLACE TO LIVE AGAIN.

Tenant at Liverton Court



LESSONS LEARNT

Access to properties can be difficult, this was addressed through a robust engagement plan including regular communication with residents.

Consider planning challenges, in particular relating to the installation of multiple ASHPs in apartment blocks and the aesthetics of this.

Understand the challenges for residents when they move from service charges to individual electricity bills. Residents moving away from paying for their heating through a service charge as part of their weekly rent, to individual electricity bills, was something some residents had never set up and paid themselves before.

Education for residents at handover is important. Ensure provision of energy advice on an ongoing basis beyond the project.

Ensure you gain approval from the distribution network operator due to increased loads.

Understand the availability of skilled contractors for installation and lack of skills for repairs and maintenance.

Monitor the homes in real time. Real-time monitoring of the homes as part of the project has allowed valuable lessons to be learnt with regards to the optimal use of the low carbon technologies. It has also improved the speed at which repairs and maintenance issues can be identified and resolved.

REAL CHANGE THROUGH INSULATING THE AREA'S LEAST EFFICIENT HOMES



- ✓ Lower Bills
- ✓ Warmer Homes

BACKGROUND

As part of its ongoing priority to address the climate emergency, Calderdale Council is working with partner organisations and communities across the borough to take climate action. This includes working towards the bold target for Calderdale to become net zero by 2038, with significant progress by 2030. This is ahead of national targets but backed by science.

The council has worked with partners to undertake a range of decarbonisation projects on homes in the borough, with the help of government funding. The work is also helping to deliver the council's priority to reduce inequalities and its long-standing commitment to support the borough's most vulnerable residents. This is especially important as the cost of living crisis continues.

51% of Calderdale Council's emissions come from its buildings and its heating systems are a big part of the problem, as homes and businesses in the borough mostly use fossil-fuel gas boilers. Buildings also often have low levels of insulation and can be draughty and expensive to heat. Calderdale's beautiful older stone homes will be a challenge to decarbonise, with over 40,000 homes built before 1919 making up 50% of the borough's homes.

ACTION

The Green Homes Grant Local Authority Delivery scheme funding is being used to provide room in roof, loft, cavity and underfloor insulation for low-income households in Calderdale's least energy efficient homes, helping make their homes healthier, warmer and cheaper to heat.

Homes lose heat through their walls, floor and roof: adding insulation envelopes the building, helping to reduce the amount of energy needed to heat it. Insulation can also help to keep homes cooler in warmer weather.

Ventilation improvements are also being installed into residents' homes, helping to reduce the health risks that can be caused by condensation, damp and mould and poor indoor air quality.

FUNDING



During 2019 – 2023, the Council has been successful in securing almost £8.8 million from the Green Homes Grant Local Authority Scheme and is on track to deliver improvements to over 900 homes by the end of September 2023. Mainly consisting of 'room in the roof' insulation installed through the Better Homes Yorkshire energy efficiency scheme, this work will deliver over 55,650 tonnes of CO2 savings and estimated savings of residents' energy bills of over £10 million over the lifetime of the measures.

To qualify for the funding, households needed to have a total combined income of less than £30,000 or be in receipt of certain government benefits, such as pension credit, child benefit, child tax credit or universal credit.

The work is again being delivered by Calderdale Council in partnership with the Better Homes Yorkshire energy efficiency scheme managed by Equans, and installed by local supply chain partner Eclipse Energy.

YES Energy Solutions were also procured to install additional loft and cavity wall insulation to suitable homes.

CALDERDALE COUNCIL'S CABINET MEMBER FOR CLIMATE ACTION, ACTIVE TRAVEL AND HOUSING, CLLR SCOTT PATIENT, SAID:



Having better insulated homes means that less energy is needed to heat the home and rooms are kept warmer for longer. This energy efficiency not only supports a reduction in carbon emissions from homes but also makes homes cheaper to heat – supporting priority work to tackle the climate emergency and the cost of living crisis.

Those who have already benefitted from this scheme are already enjoying homes that are warmer, healthier and more energy efficient.



Through its Anti-poverty Partnership, the council has also established an Affordable Warmth Forum with partners delivering affordable warmth and debt advice to low-income residents, as well as ensuring support through its various insulation and heating schemes, is being provided to lower income households in the greatest need.

THE IMPACT

Several local people have already benefited from the Green Homes Grant initiative. Sowerby Bridge resident Sue Precious decided to take up the offer of free attic insulation and said: “Now, I’m definitely feeling the benefits. My attic room used to be ever so cold and draughty, but now it’s a useable space and my daughter has taken up residence in there. The draught has completely gone, and it is noticeably warmer.”

LESSONS LEARNT

Overall, delivery of the Green Homes Grant Local Authority Scheme has been successful. However, there have been some key lessons around promoting the need and benefits of improved ventilation works that are required alongside the insulation to reduce the level of abortive works and customer drop out.

Take-up from private sector landlords has also been very low due to the level of financial contribution required compared to the level of local rental yields. Further work will need to be done to develop affordable finance solutions for landlords with small property portfolios, who may not have the cashflow or financial means to afford their contribution towards the cost of the works. As we already know, the private rental sector has disproportionately higher levels of colder homes and general disrepair.

Alternative funding solutions will be needed to ensure that private landlords will be able to participate in future energy efficiency retrofit schemes and ensure that some of the most vulnerable residents will be able to benefit from warmer, healthier homes.

FUTURE PLANS

The council will ensure that zero carbon homes and neighbourhoods become the standard in Calderdale and that they are built to protect the area from extreme weather, aiming for all new builds to be 10% carbon positive by 2025 or sooner.

Calderdale's Climate Action Partnership will oversee and enable the delivery of Calderdale's Climate Action Plan once finalised. A key focus will be on creating warm, resilient and low carbon buildings.

The council is also working on further projects that will start to develop the scale required for energy retrofit works to achieve the borough's net zero ambitions.

This includes a project led by the council and funded by Innovate UK to unlock non-technical barriers to retrofitting pre-1920s solid stone walled buildings, through the Fast Followers programme to accelerate progress towards hitting net zero targets. The project will be delivered in partnership with Carbon Co-op and Todmorden Learning Centre and Community Hub.

The council has successfully secured a further £4.14 million through Phase 2 of the government's Home Upgrade Grant. This will deliver thermal envelope and clean heating improvements to up to 200 low-income households off the gas grid by March 2025.

Work is also underway to develop a new 'one-stop shop' and retrofit advice hub that will give residents impartial advice and guidance on how they can improve the energy efficiency of their homes through insulation, ventilation and clean heat technologies.

A street-based retrofit demonstrator project is also being developed and rolled out from March 2024. This will test how retrofit works can be funded through a combination of subsidy, grant and affordable finance products for homeowners who will have to fund contributions to the overall cost of the works. The project will also look at how the benefits of retrofit work can be communicated and explained to residents and owners more effectively to encourage take-up, and overcome the challenges and barriers associated with the perceived level of disruption to residents whilst the insulation work is carried out.

As well as creating demand for retrofit works through support and affordable finance options for homeowners, this approach will give insulation and renewable heat installers the longer-term confidence to invest in training, skills and business expansion. In turn, this will help to meet the level of supply required to realise the retrofit ambition of improving 69,000 homes in Calderdale to energy performance rating C by 2038, as part of the borough's net zero ambition.



I WAS A BIT DUBIOUS OF THE SCHEME AT FIRST AS I DIDN'T WANT TO SPEND ANY MONEY ON THE WORK. THANKFULLY I DIDN'T HAVE TO.

THE INSULATION HAS MADE A VAST IMPROVEMENT TO MY ATTIC – YOU CAN REALLY FEEL THE DIFFERENCE IN TEMPERATURE. THE WORK LASTED NO MORE THAN THREE WEEKS, AND I HAD A REALLY GOOD SET OF LADS DOING THE INSULATION FOR ME. THEY WERE WONDERFUL AND WORKED SO WELL TOGETHER.

Michael Dixon, of Halifax





Lower bills



Warmer homes



Green heating

Social housing has made a good start - but we need to keep it going. That means more government investment in real homes, to deliver real change.





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