Whole House Retrofit: Resident Impact Assessment

Impact of Destination Zero on Residents

Nottingham City Council | Housing Services

What difference does

Whole House Retrofit

make to people living in these homes?

WHR in Nottingham

Nottingham City Council Housing Services is delivering a Whole House Retrofit (WHR) programme to tackle the remaining poorest energy efficient (solid brick) properties in the city. WHR aims to improve the energy efficiency by assessing the needs of each property and replacing a number of elements that contribute to poor energy efficiency.

The Destination Zero programme in Nottingham (Waves 1 and 2) carried out WHR to properties as part of the Department for Energy Security and Net Zero's Social Housing Decarbonisation Fund demonstrator funding stream.

61 properties received WHR under DZ1 and a further 68 under DZ2. All properties had External Wall Insulation, loft insulation, air permeability improvements, and new extract ventilation. Some properties also had a new boiler, window replacements, and roofing repairs as needed.

Person-centred impacts of WHR

A central aim of WHR is to improve the energy efficiency of housing, reducing carbon emissions and helping deliver the UK's Net Zero goal. However, reducing carbon emissions is just one of a range of positive outcomes of WHR. There is a substantial evidence base that shows that WHR improves a range of outcomes for the people living in these homes: from health and wellbeing, energy and finances, work and spending, to home life and housing outcomes.[1]

This impact assessment takes a person-centred approach, to assess the outcomes experienced by residents living in homes that have been retrofitted, and the potential wider environmental, social and economic impact.

Residents completed surveys before and after the works, and four residents took part in detailed case studies.

[1] For a comprehensive review of the evidence of person-centred impacts of Whole House Retrofit, see: https://carbon.coop/2022/01/person-centred-retrofit-a-fuel-poverty-vulnerability-led-approach-report-launch/

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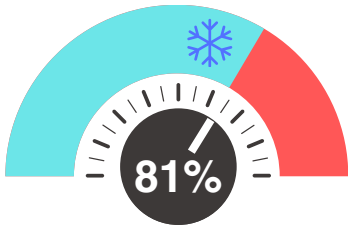
What was it like

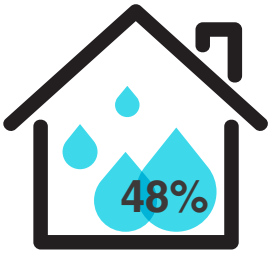
Before WHR

for residents?

The majority of residents reported that their homes were hard to keep warm during the winter, and many had issues related to poor energy efficiency – such as draughts and damp.



couldn't keep their home comfortably warm in winter



reported damp and/or mould in their home

38% Dissatisfied **28%** Neutral **34%** Satisfied

More residents were dissatisfied than satisfied with the overall quality of their home

"In the winter we wouldn't sit downstairs, it was that cold in here. I don't know if it was the concrete floor or there were just so many draughts coming from all over the place – so we wouldn't use downstairs. We just stayed warm upstairs. Just feeling cold in your home, when you've got the heating on, and you're not able to keep it warm – it's a bit stressful."

Over half of households in these homes had someone with a health condition that makes them more vulnerable to cold-related ill-health. Almost half of respondents said they were in bad or very bad health.

58% of households had someone vulnerable to cold-related ill-health

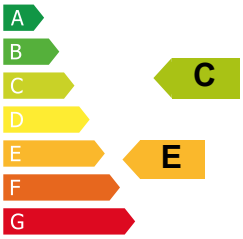
48% reported bad or very bad overall health

A much higher proportion of these residents were in (very) bad health, compared to Nottingham average (8%)

"Before it was a cold house. Being an old person – the youngsters don't feel it – but it hits in the bones. Which it used to do when you walked in the house and it was cold, you could feel it in your bones."

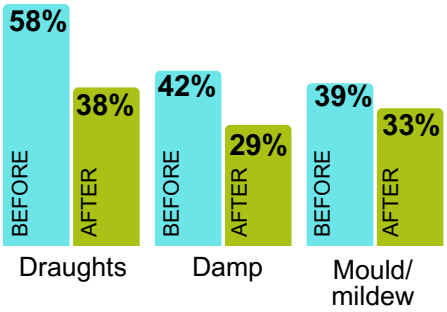
What's changed
After WHR
for residents?

Properties now meet energy efficient standards. All residents report that they are now able to keep their home warm enough during the winter. Draughts, damp and mould have all reduced.

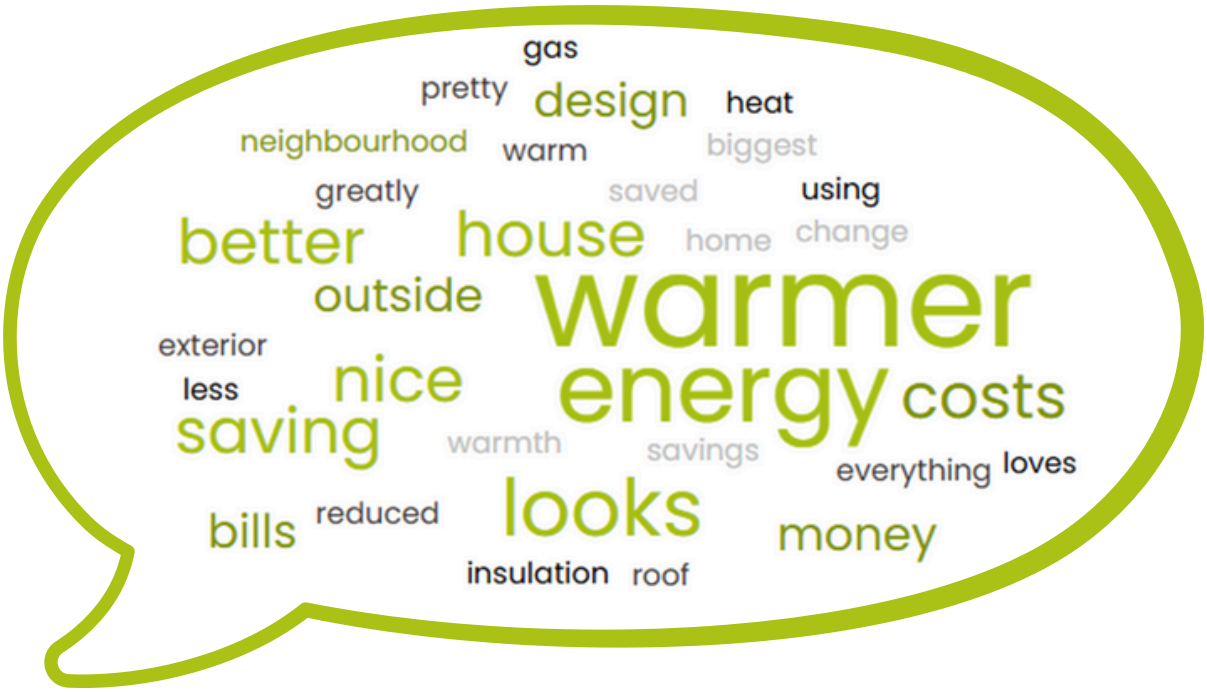


All properties are now EPC rated C i.e. energy efficient

All residents can now keep their home warm in winter



Fewer residents report draughts, damp or mould



"I noticed, the first October, how warm it still was in the house. You noticed it straight away, that you were just so warm in the house. The house holds onto the heat, and when the heating comes on you can feel it heats the house quicker. And not having to have the heating on as much."

Just over a third (38%) of residents report that they still have damp and/or mould/mildew

What's changed
After WHR
for residents?

Residents are more satisfied with their home overall. Residents are able to keep their homes warm, and in addition, half of residents report a reduction in energy costs. More residents are in credit with their rent.

67% Satisfied **14%** Neutral **19%** Dissatisfied

Two-thirds of residents satisfied with overall quality of home

52% Bills gone down **33%** Not sure **14%** No saving

Over half of residents have saved money on bills, as well as staying warm

More households are building up more credit with their rent accounts since WHR

Just under half of households remain in rent arrears.
One household came out of arrears since WHR.

More residents are in good or very good health, fewer residents are in bad health. 20% of residents say WHR has improved their physical health and 30% say it has improved their mental health/wellbeing.

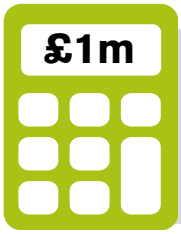
50% reported good or very good overall health (up from 30%)

30% reported bad or very bad overall health (down from 48%)

20% felt their **physical health**

30% felt their **mental health**

had got (much) better because of WHR



Every £1 spent on energy efficiency measures saves the NHS an estimated 42p in direct health costs. Improvements to homes through DZ2 could **save the NHS over £1m in health costs**.

What have we learned from

Whole House Retrofit

to maximise future impact for residents?

1

Frame WHR as a health and wellbeing intervention to residents
Emphasing messages about positive health benefits as much as energy efficiency appeals to a wider audience, including more residents.

2

Minimise the potentially stressful nature of WHR on residents
Resident feedback shows that delivery of a range of measures throughout their home can be stressful. This can be minimised by:

- Having a single/consistent point of contact for residents throughout delivery, to raise queries and resolve issues - rather than residents having to contact individual (sub)contractors.
- Timely completion of works, and responsive follow-up until all final snagging issues are resolved.
- Keep reminding residents that the results are worth it, with most residents who have already had WHR recommending it to others.

3

Further investigation of air quality/effectiveness of ventilation
Although most residents were more satisfied with air quality, some still report issues such as condensation, damp and mould. Technical investigation as well as resident training may be required.

4

Combine technical monitoring with resident perception
Residents' own perceptions are central to assessing person-centred impact. But additional insight can be gained by combining data from technical monitoring (e.g. energy use, temperature, air quality) to:

- Share actual data (e.g. change in energy use) back with residents to better inform their perceptions.
- Identify where outcomes differ from expected and address causes.

5

Leave a legacy that goes beyond improvements to properties
The engagement with residents and the local community through the WHR programme provides an avenue to create wider legacy benefits:

- Opportunities to provide wider energy efficiency advice (e.g. getting the best energy deal including moving to Direct Debit) or resident energy behaviour (e.g. heating and ventilation strategies).
- Employment and training outcomes through contractor partners e.g. using opportunities in the new Procurement Act 2023 for pre-tender market engagement to develop innovative employment/training offers with contractors.

6

Further research to understand wider impacts on rents and repairs
More detailed research is required to understand fully the relationship between WHR and the effects on repairs, and the way that residents spend the 'takeback effect' from energy savings, and whether this has an impact on payment of rents.