

ZCY Buildings: Making retrofit happen in Yorkshire

Retrofit our homes to tackle multiple crises

Dr Kate Simpson
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Retrofit our homes to tackle multiple crises

by Jez Fredenburgh
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Retrofitting our homes is one of the best ways to lower our energy costs, tackle climate change, and keep everyone healthy, says Dr Kate Simpson.

The UK is facing multiple crises – energy, cost of living, poverty, climate, and health. While it can't solve everything, making our homes

What crises can retrofit help to tackle?

- Cost of living: energy
- Poverty & health impacts
- Energy security
- Climate resilience

Majority of UK homes still heated by gas (and oil):

16% of the country's GHG emissions
roughly 1/3 of our national electricity consumption
contributing 1/3 of our carbon and GHGs emissions

What causes fuel poverty?

- Low income
- High energy prices
- Inefficient homes (EPC Band D or over)

**6.7 million UK households are estimated to be in fuel poverty,
Since October (with government's price freeze in effect)**

National Energy Action

Figure 1.2: Proportion of A to C rated dwellings, by region, 2020

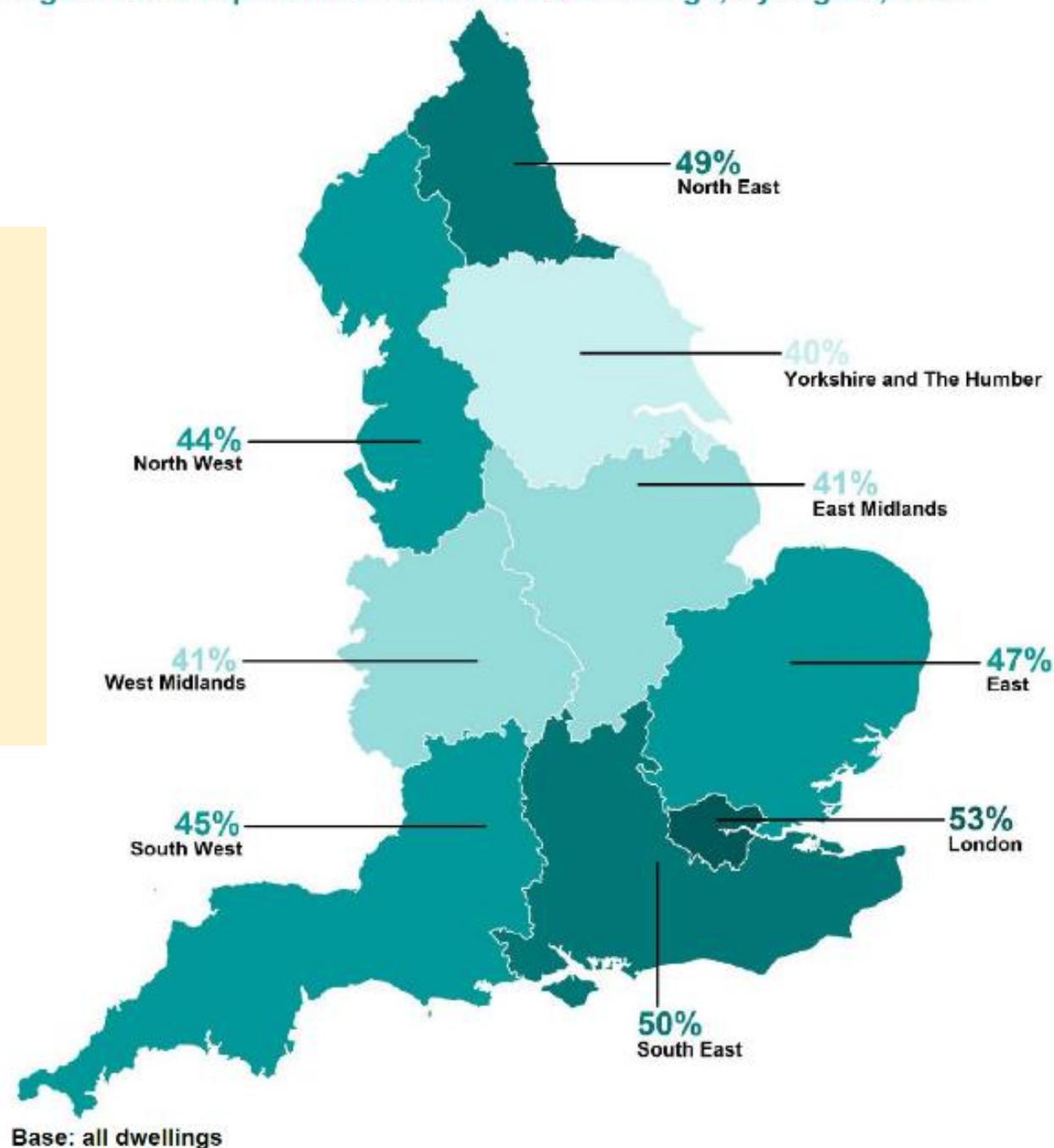
Yorkshire & the Humber

Least homes rated A to C ^[1]

(A = very efficient, G = very in-efficient)

Most fuel poor households (17.5%) ^[2]
(alongside West Midlands)

Increase in fuel poor ~10% (2018) to ~17% (2019)^[3]

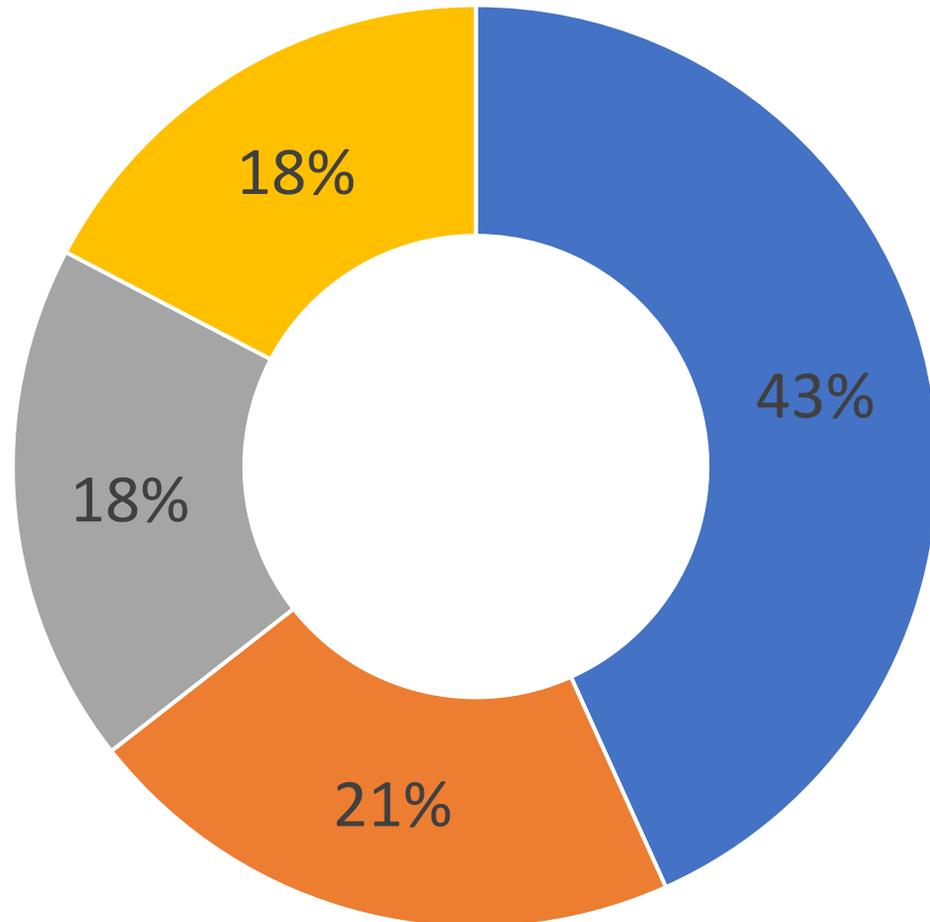


[1] English Housing Survey, Energy Report, 2020-21, available via: <https://www.gov.uk/government/statistics/english-housing-survey-2020-to-2021-energy>

[2] <https://www.gov.uk/government/statistics/fuel-poverty-factsheet-2022>

[3] Fuel Poverty Update 2022 available via <https://democracy.leeds.gov.uk>

Fuel poverty by age (England)



- Single or couple with children
- Single or couple under 60
- Single or couple over 60
- Multi-person

Progress and opportunities: Insulation, heat and power 'measures' in England

- 87% of all houses now have double glazing
- 70% of houses with cavity walls have insulation
- 12% with solid walls (mainly social housing) have insulation
- 39% all houses have sufficient loft insulation (200mm or more)
- 5% have solar panels
- 1% have solar thermal
- Less than 1% have a heat pump

How can we make retrofit happen?

- **Long-term ambitious strategy:** Allow industry and householders to develop trust in a plan that is widely promoted
- **One-stop shops** on every high street: **householder and builder information**, plus defect reporting (and continuous learning)
- **Raise standards** to ensure better quality homes and test compliance post-retrofit completion (1, 5, 10 yrs)
- **Skills:** Work with the existing construction workforce, develop supply chains & skilled jobs
- **Partnerships:** Build on current links: WYCA, YHCC, housing adaptation & maintenance, and fuel poverty services etc
- **Low-income support:** Make insulation, solar PV (and batteries), solar thermal, heat pumps & MVHR more affordable
- **Enabling joined up whole-house system, energy supply and neighbourhood retrofit planning**

- Simpson, K., Murtagh, N., & Owen, A. (2021) Domestic retrofit: understanding capabilities of micro-enterprise building practitioners. *Buildings and Cities*, 2(1), pp. 449–466. DOI: <https://doi.org/10.5334/bc.106>
- Simpson, K., Janda, K. and Owen, A. (2020) Preparing ‘middle actors’ to deliver zero carbon building transitions, *Buildings and Cities* special issue: Education and Training: Mainstreaming Zero Carbon, doi.org/10.5334/bc.53
- Simpson, K. (2017) Energy efficiency refurbishment of UK homes: Householders’ perspective. PhD thesis, Loughborough University. Available via [here](#)

What next for Yorkshire?

Retrofit strategy, as part of the Climate and Environment Plan?



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A warm, healthy and climate friendly home for everyone in West Yorkshire

By David Barns, Andy Boyle, Jamie Keats, Neil Mckenna, David Nugent, Kate Simpson, Andy Walker and Andrew Wilson

The problem and the opportunity

Our region is in urgent need of Better Homes that are fit for the future. 'Better' means improving neighbourhoods, and ensuring homes are comfortable, affordable to heat, healthy, safe and climate resilient while aligned with the net zero commitments¹.

Eighteen Ideas for West Yorkshire

- [Introduction](#)
- [West Yorkshire needs Free, Electric and Community Controlled buses now](#)

Thank you for listening.

Reflections are very welcome

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Relevant references from previous work

- Simpson, K., O'Donovan, C. and Hiteva, R. (forthcoming) Connection, comfort & control: older peoples' perspective on technology retrofits at home, Making (A)mends conference, University of Tampere, October 20-21, 2022. Journal TBC following conference.
- Simpson, K. (2017) Energy efficiency refurbishment of UK homes: Householders' perspective. PhD thesis, Loughborough University. Available via [here](#)
- Simpson, K., Whyte, J., Childs, P., (2020). Data-centric innovation in retrofit: A bibliometric review of dwelling retrofit across North Western Europe. Energy and Buildings 229, 110474.. doi:10.1016/j.enbuild.2020.110474
- Simpson, K., Murtagh, N., & Owen, A. (2021) Domestic retrofit: understanding capabilities of micro-enterprise building practitioners. Buildings and Cities, 2(1), pp. 449–466. DOI: <https://doi.org/10.5334/bc.106>
- M Hodges, N., Redgrove, Z. Morris, P., Simpson, K. and Asher, M (2016) Affordable warmth & health impact evaluation toolkit, a Report for the Department of Energy and Climate Change by CSE
- Agnolucci, P., Ekins, P., Simpson, K. and Wade, F. Fuel Poverty: Evidence from an inner London Borough. A report for the Cheshire Lehmann Fund by UCL Energy Institute. Available [here](#)
- Simpson, K., Smith, K., Thomas, K. (2016) Smart prepayment meters: householder experiences, a report for the Cheshire Lehman Fund, Centre for Sustainable Energy, Bristol, UK.
- Simpson, K., Janda, K. and Owen, A. (2020) Preparing 'middle actors' to deliver zero carbon building transitions, Buildings and Cities special issue: Education and Training: Mainstreaming Zero Carbon, doi.org/10.5334/bc.53
- Simpson, K., Fell, M., Wade, F. and Fifield, L. (2012) 'When Alan Met Sharon: A U-Value Romance', a half-baked production for the LoLo CDT Summer event, shared via SEA Superhomes: <https://www.youtube.com/watch?v=xro2FPaRf8> (and CDT Energy Durham)
- Example of energy advice shared, co-created in-house, but since updated: <https://www.cse.org.uk/advice/advice-and-support/energy-mythbuster>