BRE BRIEFING NOTE

Progress on energy efficiency in England and priorities for the Warm Homes Plan

Over half of homes are now EPC C or better

For the first time, official data shows over half of English homes are reasonably energy efficient with significant progress made over the last twenty years. Still, action to retrofit under-insulated and expensive-to-heat homes needs to happen at a faster rate to protect people from cold homes and to help keep on track for net zero.

According to new data from the government's English Housing Survey (EHS), over half of English homes now meet an Energy Performance Certificate rating of C or better, a reasonable standard of energy efficiency. The milestone comes as the UK government develops its Warm Homes Plan programme to deliver affordable heating and cut carbon emissions in existing homes. Labour's election manifesto committed to a doubling of spending on home retrofit, improving five million homes over five years.

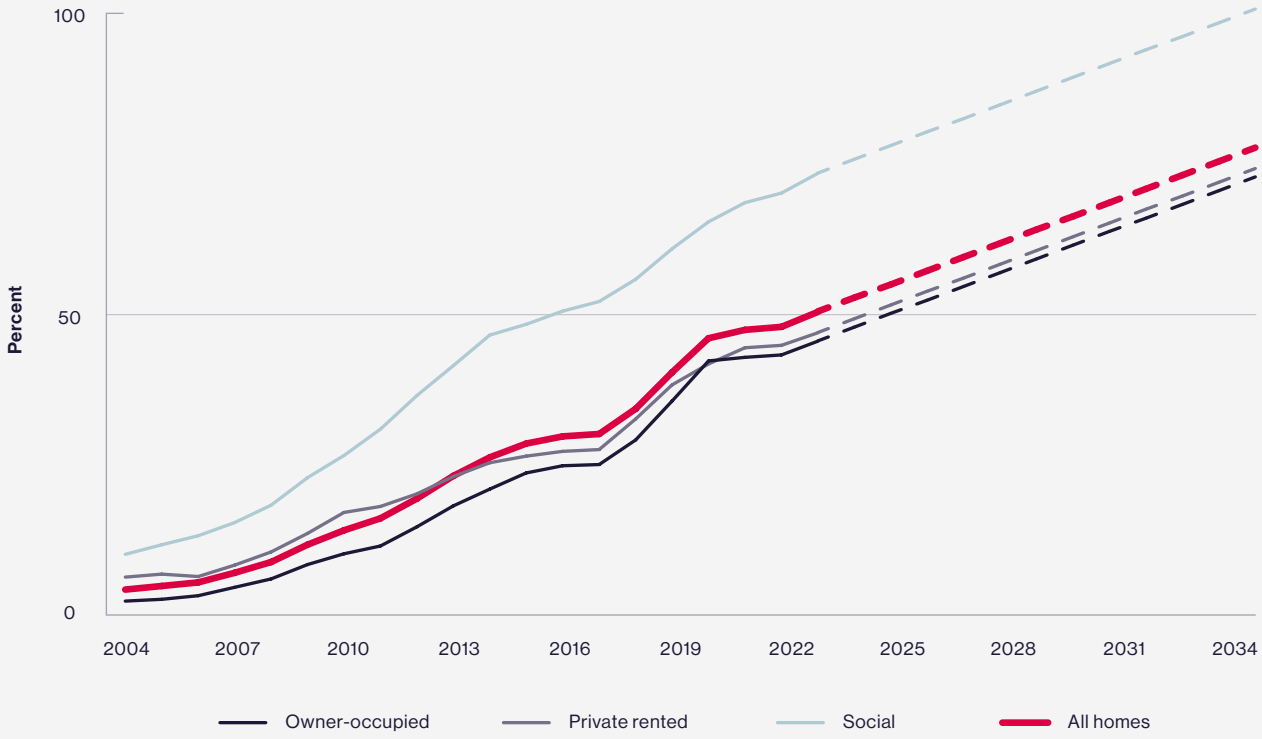
On Energy Performance Certificates (EPCs), homes are rated from A, very efficient, to G, very inefficient. EPC band C has long been used by the government and environmental groups as a threshold for reasonable performance, with public retrofit funding often targeted at homes below this standard.

The English Housing Survey (EHS) involves a survey of the national housing stock. The new data, which is based on surveys carried out from April 2023 to March 2024, shows that 52%[1] of English homes are now banded A, B or C, up from 48% in last year's survey data.[2 3]

In 2004, just 4% of homes were EPC C or better. [4]

Homes rated EPC C usually have double glazing and wall insulation. Nearly all use gas boiler central heating though, increasingly, energy efficient homes will use low carbon heating like heat pumps.[5] In 2004, by contrast, the average home was in the E band:[6] homes were more likely to be single glazed, with lower levels of wall and loft insulation. Gas boilers were much less efficient than those most people have today.[7] Low energy lighting was much less prevalent.[8]

Figure 1: Progress to EPC Band C by tenure



EHS data collected 2004 to 2022 shows the **share of homes banded EPC C and above** has increased signficantly with social sector homes improving more rapidly. Assuming a continuation of the average rate of improvement over this period, all social sector homes where practicable will reach EPC C before 2035 while private sector homes are further behind.

Source: English Housing Survey reports 2014-2022; Projection – BRE analysis.

The progress in home energy efficiency has been driven by home renovations paid for homeowners (landlords or individual owner-occupiers), by the construction of new homes to modern energy performance standards, and by government programmes promoting insulation and improved heating systems.

For the homes that have met the EPC C standard, it is far from the end of the road in terms of energy improvements: a next step will be towards low carbon heating, principally heat pumps. And the definition of EPC C as a marker of reasonable efficiency may evolve (the government is currently consulting on Energy Performance Certificates), as the norms for heating and other systems in our homes change.

Still, addressing the remaining half of homes that don't yet meet a reasonable energy efficiency standard needs to remain an urgent priority for England's journey to net zero. It's particularly important that homes are fitted with an effective level of insulation, taking a fabric first approach to improvement: insulation locks in long term protection from high carbon emissions, high bills, and the health risks from cold, draughty properties. Data shows that we'll need to make progress at a faster pace to bring all homes to a reasonably energy efficient standard where practicable[9] within the next decade (see figure 1).

According to new data in the English Housing Survey, over half of English homes are Energy Performance Certificate Rating C or better

Prioritising privately owned homes

The progress towards EPC C differs between housing tenures. Social housing significantly exceeds private sector (private rented and owner-occupied) housing in the proportion of homes banded C or better. The social housing Decent Homes programme launched in 2001 by the then Labour government, has played an important long-term role here.

As such, addressing the half of homes that are not yet at EPC C is almost entirely (90%) a private sector problem.[10]

In the **owner-occupier** sector, over 8 million homes were below EPC C in 2023.[11] Around one in five owner-occupiers qualifies for the core Energy Company Obligation (ECO) scheme because they are at risk of fuel poverty:[12] going forward, low income households will necessarily remain the priority for ECO and government funding programmes. In order to achieve reasonable energy efficiency by 2035, the Warm Homes Plan will need to enable engaging and cost-effective retrofit offers of advice and financing targeting homeowners at all income levels. To shape these there needs to be a particular focus on homeowners aged over 65, a group who (based on 2019-20 EHS data) own over 40% of below EPC C owner-occupier homes.[13]

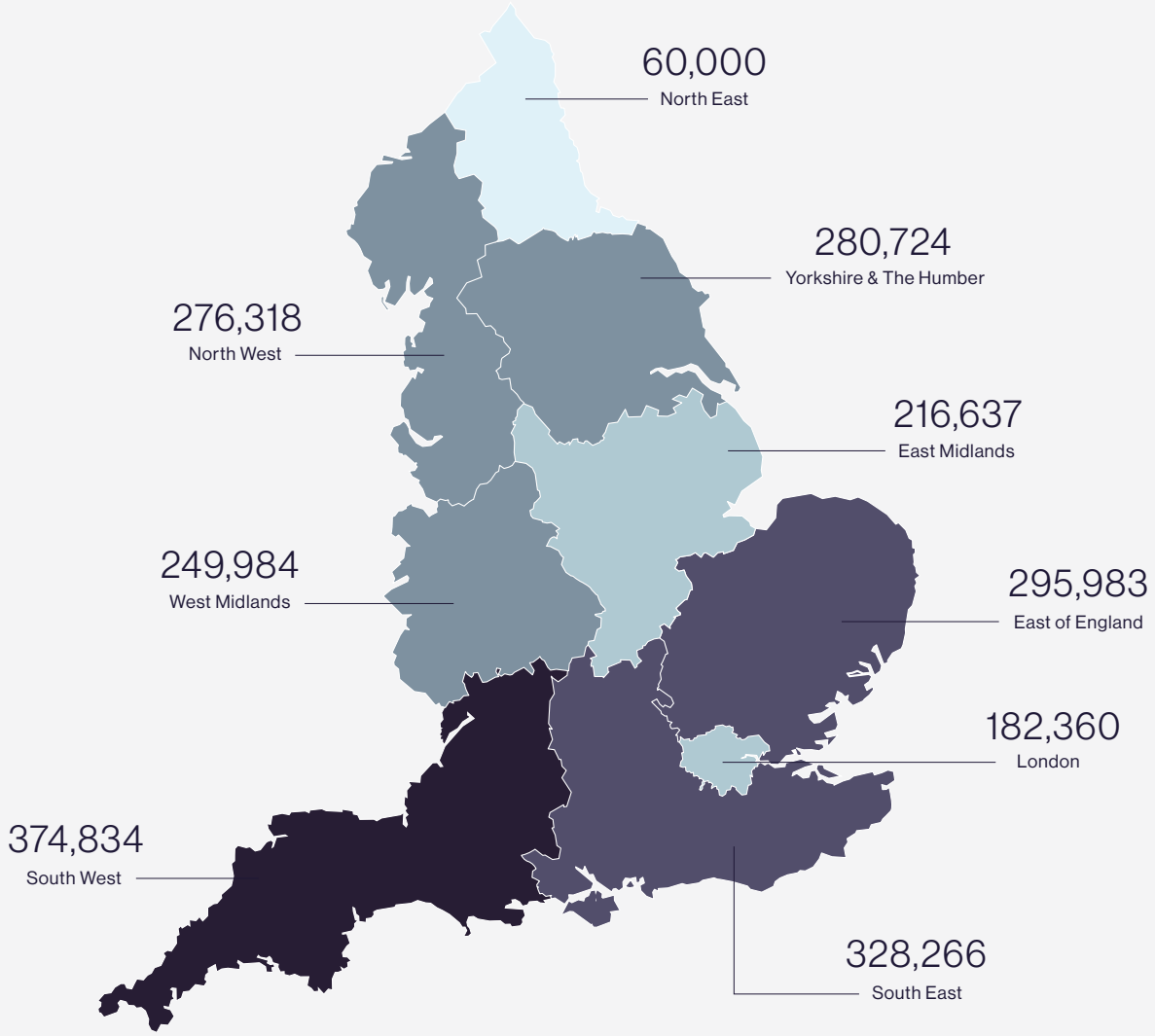
Despite progress in improving **privately rented homes**, this tenure still has the highest proportion of below EPC C homes.[14] The current Minimum Energy Efficiency Standards (MEES) applying in this sector require landlords to improve very inefficient F&G banded homes; however, our research indicates the £3,500 cost cap on such required improvements is now too low. Longer term, the government has committed to an EPC C standard in the private rented sector. This should be delivered alongside the planned mandatory Decent Homes Standard, which addresses wider quality problems.

The new government has the right regulatory framework planned for private rented homes: the challenge will be enforcement and, as we discuss below, significant investment is needed to resource the monitoring of standards by councils. Finally, as with owner-occupiers, landlords that want to go beyond minimum standards need to be supported with effective advice and financing.

Cold homes

While the proportion of the least energy efficient homes – in the EPC E, F and G bandings – has fallen to 9% of homes in the new 2023/24 EHS data: these homes need to be a particular focus within the Warm Homes Plan, because of the high costs they bring for homeowners.

Figure 2: Number of E, F and G homes across the English regions (EHS 2023-24 Headline Findings)



EHS estimates that a typical home in the bottom EPC bands of E, F and G has an energy bill more than double that of a home in the A-C EPC bands.[15] Often larger, older and under-insulated, many E, F and G banded homes use electric (non-heat pump) or oil heating.[16] In 2023, E, F and G banded homes account for 55% of the fuel poverty gap: the £1.3bn total reduction of energy costs needed across all English fuel poor households.[17]

In health and safety terms, virtually all EPC F and G banded homes are identified by the EHS as posing a serious (Category 1) hazard because they can expose residents to risks of cold-related cardiac, respiratory and even mental health problems.[18] As such all homes in these bands need to be prioritised for improvement programmes. Homes in the slightly better EPC E band are likely to represent a high scoring Category 2 health and safety hazard.[19] Improving these EPC E homes is important for health and safety where residents are older or vulnerable or where the home also has other risks such as damp and mould problems.

In 2023 BRE estimated that the **NHS is spending over half a billion pounds a year** treating cold-related ill-health caused by EPC F and G banded homes.

The Cost of Ignoring Poor Housing, BRE, 2023

Working with local authorities and devolved administrations

To ensure delivery of the Warm Homes Plan, councils and devolved administrations are key, especially given the new government's ambitious plans for local government reform and increased devolution. Local and regional governments are best placed to take account of the needs of the homes in their area, the capacity and training needs of local retrofit installers, and alignment with other priorities for housing supply and standards.

Combined Authority Areas are already taking the lead on innovative programmes to promote energy efficiency. The Let Zero project – see box on next page – delivered in South Yorkshire Combined Authority with a range of partners including BRE is a good example. The government's English Devolution White Paper[20] says that established Mayoral strategic authority areas such as South Yorkshire "will be handed control of retrofit funding as part of the Integrated Settlements, providing a strengthen route to local delivery of the Warm Homes Plan."

In addition to national level programmes, the Warm Homes Plan will need to focus on how government can support and reinforce action led by councils and strategic authorities. For example, one issue that will need to be considered is the design of the **next phase of the ECO programme** (from 2026). This consideration needs to include increasing the ability of strategic authorities to align funding with their priorities for retrofit.

The setting of the right **regulatory standards** is key. As well as its plans for an ambitious Private Rented Sector Decent Homes Standard and minimum EPC C standard by 2030, central government should consider **revising the current MEES cap** (applying to rented homes in the very bottom F/G bands) of £3,500 including VAT. This needs to be increased: BRE analysis in 2023 showed that improving private rented homes, so they are no longer in the F and G EPC bands, requires an average £6,835 of spending on improvements.[21]

Government should consider how it can support councils and strategic authorities to **monitor their housing stock**, both for regulatory compliance and to engage householders in their community with the retrofit opportunity. In the private rented sector, the planned introduction of a database of landlords will be important, but councils need more support to monitor and understand the current and potential energy performance across the private homes in their area.

The Let Zero project

Funded by Innovate UK's Low Carbon Heat Programme and led by South Yorkshire Mayoral Combined Authority, the £2.8m Let Zero project is developing new, integrated approaches to improve conditions for private sector renters by supporting landlords to upgrade their properties. Let Zero shows the growing best practice and innovation around one stop shops that bring together the demand, financing and supply of retrofit solutions, creating assured local requirements for services and products.

We particularly highlight the need for councils and strategic authorities to be supported and encouraged to **monitor the least energy efficient homes** in their area; these will become more difficult to find as they account for a reducing share of the stock. The difficulty of identifying E, F and G homes has already been reported as causing delays for retrofit programmes,[22] but, because of their high cost to run, these properties must remain a target. (In addition to the retrofit issue, councils arguably have a duty to track F & G banded homes under their Housing Act 2004 duty to monitor Category 1 health and safety hazards in their area).

Data on the housing stock can be used in **data-led engagement programmes**. For example, EHS[23] shows that owner-occupier homes that have not changed hands in a long period are more likely to be energy inefficient. Many of these long-occupied, inefficient properties will never have had an Energy Performance Certificate because they haven't changed hands since EPCs were first introduced in 2008. Housing stock data could be used to issue owners of these homes with a provisional EPC as a route into to energy efficiency advice and support.

Councils and strategic authority areas need to lead on **advice and support**, especially through one-stop shops (see '**The Let Zero project**' above). The Warm Homes Plan should address how central government can put in place underpinning infrastructure to enable this. One area where government can help is providing guidance on how programmes can address the distinct advice, installation and financing needs of owner-occupiers who are over 65.

Conclusion

While UK homeowners have made major progress in improving the energy efficiency of their homes over the last twenty years, we must go further and faster, and the Warm Homes Plan needs to unlock this. Based around a new relationship between government, strategic authorities, councils and retrofit service providers, an effective Warm Homes Plan needs to unlock higher energy efficiency in millions of ordinary, private sector homes. A successful Warm Homes Plan will enable fulfilment of vital government ambitions around affordable, liveable housing, as part of its mission to make the UK a clean energy superpower and meet the net zero target.

Notes

1. English Housing Survey 2023 to 2024: headline findings on housing quality and energy efficiency (EHS 2023-24 Headline Findings), UK Government, 2025, Annex Table 2.4
2. English Housing Survey Headline Report, 2022-23 Annex Table 5.2
3. EPC ratings used in the survey are calculated specially for the research by specialist surveyors.
4. EHS headline report 2014 to 2015: section 2 housing stock tables
5. In 2022-23, 96% of A-C EPC homes used central heating; 90% were heated by gas; 67% had insulated cavity walls. Across all homes in England, 88% had full double glazing. Source: EHS22-23 Live Tables: DA7104: energy performance and EHS 22-23 Headline Report Ch. 5 Annex Tables
6. Table EE9a Standard Tables: Energy Efficiency (National Archives)
7. Comparison of homes in 2004 and 2022:

	2022	2004
Modern condensing boiler	80.4%	2.9%
Full double glazing	87.7%	59.4%
200mm or more of loft insulation	38.8%	11.7%
Insulated cavity walls	49.3%	27.0%

   Sources: EHS 2022-23, EHS 2022-23 Live Tables, DA6201, EHS Home Report 2010: Chap 6 Fig. 6.5, and data at National Archives from English House Condition Survey, 2004

   Other changes in homes that will affect the proportion in higher EPC bands include additional heating controls and more homes with insulated solid walls.
8. BRE's 2024 report Lighting in the Net Zero Journey highlighted EHS data showing 3% of homes had low energy lighting in 2001, while 98% did in 2021.
9. Around 2% of homes cannot be brought to EPC C. For a slightly larger group of homes, costs may be considered unaffordable: 8% of homes in 2022 cost more than £15,000 to bring to EPC C. EHS 2022-23 Energy Report Chapter 2 Annex Tables
10. EHS 2023-24 Headline Findings Annex Table 2.4
11. EHS 2023-24 Headline Findings Annex Table 2.4
12. Based on ECO4 final impact assessment, and EHS 22-23 Headline Report Ch. 5 Annex Tables
13. EHS, Home Ownership Report, 2019-20, Annex Table 4.8
14. EHS 2023-24 Headline Findings Annex Table 2.4. 51.6% of homes are below EPC C in the private rented sector.
15. EHS estimated that in 2022 these homes typically spend £2,662 on energy bills compared to £1,081 homes that are banded C or better. EHS 2022-23 Energy Report, Annex Table 1.6
16. EHS Live Tables Table DA7104 (SST7.4): Energy performance – heating and insulation characteristics of dwellings, 2022
17. Table 2.3, Annual Fuel Poverty Statistics in England, 2024 (2023 data)
18. BRE, The Cost of Ignoring Poor Housing, 2023 Page 7
19. BRE analysis
20. English Devolution White Paper, UK Government, December 2024
21. BRE The cost of Poor Housing in England by Tenure 2023 Briefing Paper. Page 3
22. "The maximum cap of 50% on the number of D rated properties left some installers waiting to work while LAs identified qualifying E-F rated properties." Local Authority Delivery Scheme Phases 1 and 2: evaluation, DESNZ, 2024
23. EHS, Home Ownership Report, 2019-20, Annex Table 4.8

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