



House of Commons
Environmental Audit Committee

Energy Efficiency of Existing Homes

Fourth Report of Session 2019–21

HC 346



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*Report, together with formal minutes relating
to the report*

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Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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Contents

Summary	3
1 Introduction	5
Background to the inquiry	6
2 Achieving net zero	7
Targets	7
Challenges	8
Housing stock	8
Public perception	9
Costs	10
Types of tenure	13
3 Current Government policy on domestic energy efficiency	17
The Energy Company Obligation (ECO)	17
Home Upgrade Grants (HUGs)	20
The Green Homes Grant (GHG)	22
The Green Homes Grant Local Authority Delivery scheme	28
The Social Housing Decarbonisation Fund (SHDF)	30
Extending the Warm Home Discount	31
4 Stimulating further progress in energy efficiency	33
Skills and training	33
Minimum Energy Efficiency Standards	37
Green finance	39
Green mortgages	40
Stamp duty rebate	41
Low interest loans	42
Value Added Tax	43
Reforming Energy Performance Certificates (EPCs)	45
Building renovation passports	50
Advice and support	52
Sustainable building materials	54
Conclusions and recommendations	56
Appendix	62
Outcome of the Committee's Green Homes Grant survey	62

Formal minutes	70
Witnesses	71
Published written evidence	72
List of Reports from the Committee during the current Parliament	76

Summary

The Climate Change Committee has said that the UK's legally-binding climate change targets will not be met without the near-complete elimination of greenhouse gas emissions from UK building stock by 2050. Emissions reductions from the UK's 29 million homes have stalled, which makes a comprehensive programme of home energy efficiency even more urgent. The failure of Government schemes yet to address this challenge adequately is therefore both disappointing and of great concern to the Committee.

Improving the energy efficiency of all homes provides a huge opportunity to develop supply chains and provide jobs across the UK for all levels and skills, helping to deliver the Government's levelling-up agenda and a sustainable post-covid recovery. Energy efficiency delivers much wider benefits to the population, including lower energy bills and improvements in health, and makes a vital contribution towards achieving net zero.

There is a chronic shortage of skills in the home retrofit sector. The industry has been bruised by stop-start policy and spending decisions and the Government must set long-term targets, with appropriate support mechanisms of multi-year duration, to give businesses certainty and not change the goalposts along the way. The Government's current energy efficiency ambitions need updating with new minimum energy efficiency standards across all tenures to set the trajectory to drive improvements for every home on a realistic timescale.

The retrofit of the existing housing sector needs much greater focus and is at risk of letting the rest of the economy down on decarbonisation. The task is colossal: in England alone, over ten million owner occupied homes and over three million private rented sector landlords need to upgrade the energy efficiency of their homes to become A, B or C rated by 2035 for the Government's to achieve its climate aspirations. We consider the Government has significantly underestimated how much decarbonising our homes will cost, and it needs to get a grip on this now, before it is too late. Energy efficiency is an important precursor to low carbon heating and will put us on a least-cost path to net zero. While there are some welcome new policies such as the Home Upgrade Grant, overall policy is piecemeal and not delivering at the scale or pace required. It is also not coherent with policy costs disproportionately added to electricity bills, which is hampering the adoption of low carbon heating options such as heat pumps and support schemes such as the Energy Company Obligation, which only supports the upgrade of one energy efficiency measure at a time.

The Heat and Buildings Strategy must be urgently published. It ought to set out an enduring plan for at least the next decade to give industry and tradespeople time to upskill and give people the right signals to invest in energy efficiency. It must provide a more holistic plan for the sector and deliver on the Government's manifesto pledges on funding. Not all funding needs to come from central Government, but it needs to show more ambition and set the right frameworks to drive private investment.

New initiatives for owner occupiers are needed as this is where the largest climate benefits are to be made. The Green Homes Grant is welcome, but has been poorly implemented, beset by administrative problems and delays which fundamentally jeopardise delivery

of the scheme's ambition. It is too short term and is now causing damage to the sector. The impact of its botched implementation has had devastating consequences on many of the builders and installers that can do the work, who have been left in limbo as a result of the orders cancelled and time taken to approve applications. It has only achieved ten per cent of its target to improve 600,000 homes in six months. We welcome the Government's commitment to improve the scheme. It must be urgently overhauled and extended to a multi-annual scheme to provide the financial support to homeowners and build trust within the industry to encourage installers to get accredited and enable companies to hire staff. This needs to be included in the Heat and Buildings Strategy as an urgent priority.

VAT is one of the largest obstacles to homeowners upgrading their homes. We recommend that VAT on the labour element of refurbishment and renovations is reduced to five per cent and the reduced rate of VAT payable on Energy Saving Materials should be reinstated to the previous level of five per cent. The Government also needs to work with the financial sector to ensure awareness and uptake of green financial products and develop more pilots into innovative financing mechanisms alongside stamp duty rebates and low interest loans. The success achieved in Germany through its state-funded low interest loans is on the scale that the UK should be aspiring to and the Government should consider how the National Infrastructure Bank could be used as a vehicle to support homeowners. Advice and support are also essential if people are to be expected to invest in energy efficiency and the Government should build on its advice service to provide more specialist, bespoke advice.

Inaccurate energy performance certificates (EPCs) are doing nothing to improve the value of decarbonised houses and accurately reflect the progress the country is making in improving the energy efficiency of the housing stock. They must be overhauled by revealing not just the fuel cost, but the energy and carbon metrics in its headline rating. We also want to see the eventual replacement of the EPC system with building renovation passports which have the potential to provide much more accurate data on energy usage and provide homeowners with long term renovation strategies which can minimise disruption to their homes. If rolled out across the country, they could be used to unlock green finance and benefit both homeowners and private sector landlords.

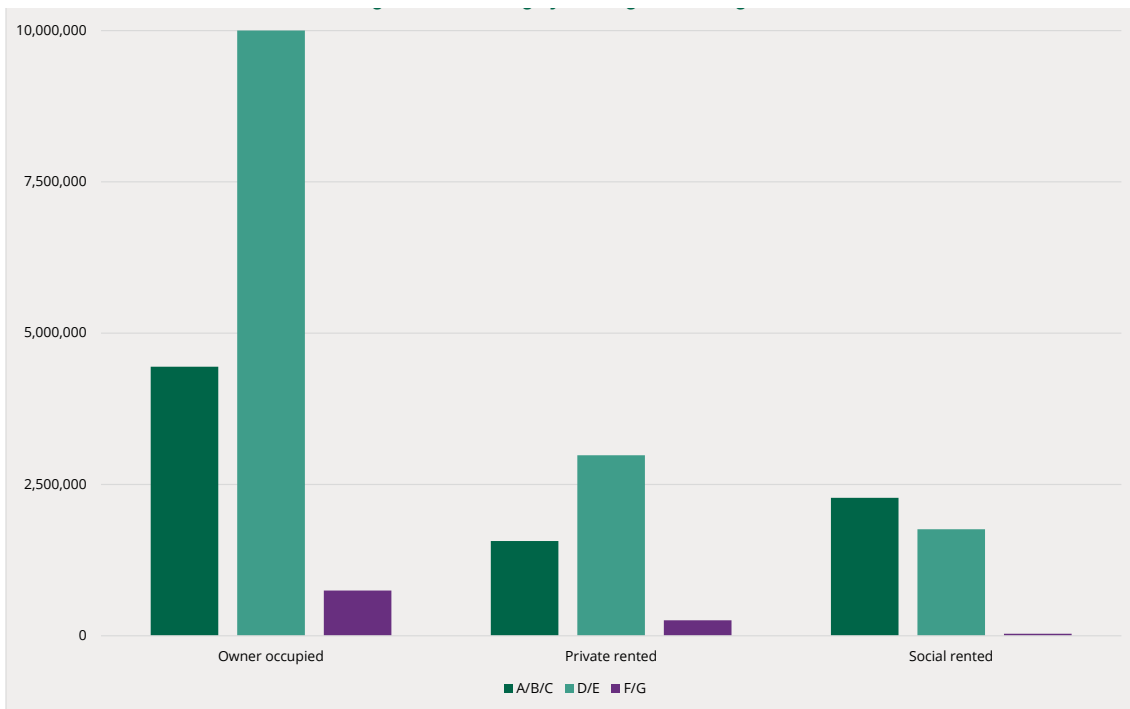
Despite the need to make progress in improving energy efficiency of 19 million homes to achieve its net zero objectives, no mention was made of energy efficiency in the Budget statement made by the Chancellor of the Exchequer on 3rd March. This was a missed opportunity to signal improvements planned for the Green Homes Grant and to get back on track to achieve its targets of this key plank of its net zero ambition. We look forward to the publication of the Heat and Buildings Strategy to provide clarity and inspire confidence in the sector.

1 Introduction

1. Of the 29 million existing homes across the UK, at least 19 million still need to be made low carbon, low-energy and resilient to a changing climate. Domestic properties account for 30 per cent of energy use and around 19 per cent of greenhouse gas emissions in the UK.¹ Energy efficiency is a vital first step toward decarbonising homes, making them warmer and cheaper to run, improving health inequalities and tackling fuel poverty. Newly-constructed buildings are more energy efficient: but 80 per cent of the buildings that will be with us in 2050 have already been built, and will require retrofitting to become energy efficient.²

2. The task is colossal. In England alone over ten million owner occupied homes and over three million private rented sector landlords need to upgrade the energy efficiency of their homes to become A, B or C rated by 2035 for the Government's to achieve its climate aspirations (figure 1). Many homeowners are unaware that their involvement is needed and will need financial support and advice to upgrade and retrofit their homes.

Figure 1: EPC rating by tenure, England.³



3. Decarbonising existing homes presents a significant opportunity to build a domestic supply chain and skills base and to deliver on the Government's levelling up ambitions. Investment in energy efficiency measures can provide a significant kickstart to the economy in the aftermath of the covid-19 pandemic, since it can create supply chains and provide jobs across the entire country at all levels and for a wide range of skills.

1 Residential emissions were 19% of carbon emissions in 2019. BEIS. 2020. [UK Greenhouse Gas Emissions provisional figures](#); 29% of energy use in 2019, 29.9% when temperature corrected. BEIS. 2020. [Consumption Data tables](#)

2 [Climate change - UKGBC - UK Green Building Council](#)

3 Climate Change Committee ([EEH0124](#))

Background to the inquiry

4. In May 2020 we launched our inquiry to examine the Government’s progress on energy efficiency measures and to provide an update on the inquiry into energy efficiency undertaken by the Business, Energy and Industrial Strategy Committee in the 2017 Parliament.⁴ We received 134 written responses and held four public evidence sessions, hearing from 27 witnesses including academics, builders and trade associations, NGOs, social housing providers, landlords, financial institutions and Government advisers. While we were gathering our evidence, the UK Government made several relevant announcements: the Green Homes Grant was launched last July, as part of the Government’s covid recovery package; the Prime Minister announced a Ten Point Plan for a Green Industrial Revolution;⁵ the Chancellor of the Exchequer published a National Infrastructure Strategy⁶ and the outcome of the 2020 Spending Review; and the Secretary of State for Business, Energy and Industrial Strategy issued an Energy White Paper.⁷ Each of these initiatives are examined in this report.

5. We conducted an online survey for members of the public who had attempted to access the Green Homes Grant: it received 510 submissions. To conclude the oral evidence to the inquiry, we heard from Rt Hon Kwasi Kwarteng MP, then Minister for Energy at the Department for Business, Industry and Industrial Strategy, Rt Hon Christopher Pincher MP, Minister of Housing at the Ministry of Housing, Communities and Local Government, and Kemi Badenoch MP, Exchequer Secretary to the Treasury.

6. Our work on this inquiry links to our work on technological innovations and climate change—in the course of which we have examined low carbon heating from hydrogen and heat pumps—and our work on greening the covid recovery and on green jobs. In this report we concentrate on measures to reduce the demand for space heating through the upgrading of heating systems and increased insulation.⁸ We have not examined types of low carbon heating in detail, as we have examined them in other work and they are presently the subject of a parallel inquiry by the Business, Energy and Industrial Strategy Committee.⁹ This report focuses principally on the application in England of energy efficiency measures promoted by the UK Government.

4 BEIS Committee, 2019. [Energy efficiency, buildings towards net zero](#). HC1730

5 HM Govt. 2020. [The ten point plan for a green industrial revolution](#).

6 HM Treasury. 2020. [National Infrastructure Strategy](#)

7 BEIS. 2020. [Energy White Paper: Powering our net zero future](#)

8 Space heating is the dominant driver of energy consumption in existing homes (making up 63 per cent of annual energy consumption), followed by hot water and appliance demand. BEIS. 2018. Energy Consumption in the UK

9 BEIS Committee. 2020. [Decarbonising heat in homes](#)

2 Achieving net zero

Targets

7. In June 2019, Parliament enshrined in law the net zero target, thereby committing the UK to reduce emissions by “at least” 100 per cent below 1990 levels in 2050.¹⁰ Most sectors will need to reduce emissions close to zero and those that are difficult to decarbonise completely will be able to use offsetting and negative emissions technologies.

8. The Climate Change Committee (CCC) has said that to meet net zero, the UK’s building stock needs to be nearly completely decarbonised by 2050.¹¹ Low-carbon heat cannot be deployed cost-effectively unless buildings are properly insulated.¹² The CCC has repeatedly warned that energy efficiency needs addressing immediately if the UK is to meet its Fourth (2023 to 2027) and Fifth (2028 to 2032) Carbon Budgets.¹³ The National Infrastructure Commission has highlighted energy efficiency as a vital component to the “most effective and cheapest total-system-cost approach to decarbonising the energy system” in its National Infrastructure Assessment issued in July 2018.¹⁴

9. The energy efficiency performance of a building is currently assessed by an Energy Performance Certificate (EPC). These are graded on a scale of A (most efficient) to G (least efficient), and have two metrics: a fuel cost-based energy performance rating and a rating relating to CO₂ emissions. To achieve net zero, the CCC recommended that all buildings achieve EPC C over the next 10 to 15 years.¹⁵ Yet the latest Government data has indicated that 16 million homes in England¹⁶—two thirds of the English total—and nearly 19 million homes across the UK, have EPC ratings of D or worse.¹⁷

10. The Government’s ambitions on energy efficiency are set out in the Clean Growth Strategy issued in October 2017. It included an aspiration for homes in England and Wales to achieve EPC Band C by 2035, where cost effective, practical and affordable.¹⁸ Progress towards this ambition has stalled,¹⁹ and it was introduced in the context of the UK’s previous greenhouse gas emissions target for an 80 per cent reduction by 2050. E3G, a climate change think tank, told us that in light of the net zero target, the ambition was no longer appropriate and should be reviewed.²⁰ E3G suggested that a target should be brought forward to 2030 and recalibrated so that homes should be required to achieve a rating higher than EPC C. Pedro Guertler, E3G’s programme leader, explained that any emissions reduction scenario would require the decarbonisation of the domestic property

10 [The Climate Change Act 2008 \(2050 Target Amendment\) Order 2019](#)

11 Climate Change Committee. 2019. [Net Zero – The UK’s contribution to stopping global warming](#)

12 E3G ([EEH0107](#))

13 Climate Change Committee. 2019. [UK housing: Fit for the future?](#); Climate Change Committee. Progress Report to Parliament [2018](#), [2017](#), [2016](#), and [2015](#).

14 National Infrastructure Commission. 2018. [National Infrastructure Assessment](#)

15 Climate Change Committee. 2020. [The Sixth Carbon Budget: The UK’s path to net zero](#). Using the CCC’s balanced pathway. This energy efficiency programme is also underpinned by a timetable of standards – rented homes achieve EPC C by 2028 in line with new Government proposals, with social homes aligned to the same timetable.

16 BEIS. 2020. [Energy White Paper: Powering our net zero future](#), p100

17 Not every home has an EPC and national housing surveys are based on samples. BEIS Committee, 2019. [Energy efficiency, buildings towards net zero](#). HC1730

18 HM Government. 2017. [Clean Growth Strategy](#)

19 Climate Change Committee. 2019. [UK housing: Fit for the future?](#)

20 E3G ([EEH0107](#)) See also Energy Saving Trust ([EEH0102](#))

sector to a greater extent than in other sectors, since it was demonstrably achievable: delivery here would reduce the risk to the overall target from emissions failure in other sectors.²¹

11. The Energy Efficiency Infrastructure Group (EEIG), a collaboration of leading industry and trade bodies, said that the Government's ambition needed to be increased. They suggested that bringing the target date forward by five years would increase the associated benefits to the economy, jobs and health from delivery of the policy.²² Policy Connect argued that, if underpinned by appropriate levels of public investment, accelerated energy efficiency targets had the potential to create much needed new jobs, vital infrastructure and resilience to help tackle the expected unemployment crisis.²³ The Department for Business, Energy and Industrial Strategy (BEIS) told us that "in light of the introduction of the net zero target [in 2019], we are considering, as part of the development of a Heat and Buildings Strategy, whether implementation needs to go further and faster".²⁴ The Government has since launched a consultation to upgrade the energy efficiency of private rented sector homes in England and Wales.²⁵

Challenges

Housing stock

12. In 2018, 85 per cent of homes in England had full double glazing, up from 71 per cent of homes in 2008. Almost half (49 per cent) had cavity or solid wall insulation and 38 per cent had 200mm or more of loft insulation.²⁶ Many of the energy improvement measures that are easier to install with lower levels of disruption (e.g. loft insulation, condensing boilers) have already been achieved. To make the necessary significant impact, much deeper retrofits will be required, and the scale, cost and challenge of deployment should not be underestimated.²⁷

13. Katie Black, director of policy at the National Infrastructure Commission, told us that the retrofitting of energy efficiency measures was difficult in the UK, because it had one of the oldest and least efficient housing stocks.²⁸ Jenny Hill, from the Climate Change Committee, said that the most challenging and expensive properties to insulate were those built before 1919, as they had solid walls as opposed to cavity walls. Solid walls are less energy efficient than cavity walls and are more expensive to insulate.²⁹ There are around eight million solid wall properties in the UK.³⁰ They are more likely to be located in rural areas, and if so, they are less likely to be connected to the gas grid and may be more difficult to access and more reliant on heating oil or LPG fuel systems.³¹

21 [Q40](#)

22 Energy Efficiency Infrastructure Group. 2020. [Turning stimulus into recovery From the Green Homes Grant towards a resilient Net Zero economy](#)

23 Policy Connect [EEH0011](#)

24 Department for Business, Energy and Industrial Strategy ([EEH0024](#))

25 [Improving the energy performance of privately rented homes](#)

26 MHCLG. 2020. [English Housing Survey 2018–19](#), Headline Report

27 Department of Architecture and the Built Environment, Faculty of Environment and Technology, University of the West of England ([EEH0127](#))

28 [Q34](#)

29 [Q8](#) [Simon Bittlestone]

30 [Q5](#); The English Housing Survey estimated that 22% of the total housing stock in England was built before 1919. MHCLG. 2020. [English Housing Survey 2018–19](#), Headline Report

31 Historic England ([EEH0065](#))

14. Jonathan Ducker, from the insulation firm Kingspan, told us that “there will always be something that can be done to improve the overall energy performance” of a property.³² As every home is different, there needs to be a plan and package of measures for each specific building. Dr Joanne Wade, from the Association for Decentralised Energy cautioned about blanket exemptions from retrofit requirements, and advised the Government to prepare policies to encourage innovative approaches to properties which appear hard to upgrade:

... it is important that we do not leave these homes behind. All our homes need to be fit for the future. We cannot leave some households behind just because of the sort of house they live in.³³

Public perception

15. The National Infrastructure Commission has found that driving widespread improvements in energy efficiency is notoriously difficult.³⁴ The Climate Assembly UK provided us with an insight into what the public see as the challenges to implementing energy efficiency measures in their homes (box 1).

Box 1: Climate Assembly UK findings

Commissioned by six select committees, Climate Assembly UK examined how the UK should meet its target of net zero greenhouse gas emissions by 2050.³⁵ The assembly’s 108 members were representative of the UK population in terms of: age, gender, ethnicity, educational level, where in the UK they live, whether they live in an urban or a rural area, and their level of concern about climate change. Its views were sought on energy efficiency and taken together their votes and comments painted a nuanced picture of their views on retrofits. Assembly members saw three areas as particularly important:

Disruption. Many assembly members were keen to minimise disruption in people’s homes. They had different views on whether it would be better to have less disruption more often, or one much more major disruption. However, it was clear that anything that could be done to minimise disruption and stress for people during retrofits would be welcome.

Cost, who’s paying and how. Assembly members talked about costs in relation to both ‘upgrading homes all in one go’ and ‘upgrading homes gradually’, but felt they were particularly important in relation to the all-in-one retrofits. Assembly members had a range of suggestions for steps that might help, including spreading out payments, ways of bringing down the initial cost, and government funding. Some assembly members noted concerns around how to make retrofits affordable for all income groups and housing types.

Flexibility and choice. The idea that householders should be able to choose the solutions best suited to them featured prominently in assembly members’ discussions and comments, although slightly less so than the two areas mentioned above. Assembly members also raised points around impacts on CO₂ emissions, work quality, and the availability of improved technology, among other issues.

Source: Climate Assembly UK. 2020. [The path to net zero](#)

32 [Q131](#)

33 [Q128](#) and [Q130](#)

34 National Infrastructure Commission. 2018. [National Infrastructure Assessment](#)

35 The six Select Committees were Business, Energy and Industrial Strategy; Environmental Audit; Housing, Communities and Local Government; Science and Technology; Transport; and Treasury.

Costs

16. BEIS has acknowledged that “the built environment will need to be almost completely decarbonised by 2050, and that achieving this must be through a mix of energy efficiency and a transition to low carbon heat”.³⁶ Estimates of the investment needed to bring all homes up to EPC C vary. BEIS’s preliminary estimate is that it will require mobilising between £35 and £65 billion across the UK to 2035: the range is dependent on the number of homes, the degree to which they are practical, cost-effective and affordable to renovate, and the heat decarbonisation pathway.³⁷ It is difficult to extrapolate the average cost per home given the various assumptions, but if all 19 million were included it would vary between £1800 and £3400 per property. Ministers confirmed to us that this cost estimate does not include the transition to low carbon heating in homes, i.e. installation of heat pumps.³⁸

17. The Climate Change Committee analysed the investment needed in its Sixth Carbon Budget advice to Government. Its “balanced net zero pathway” entails £55bn of investment in home energy efficiency to 2050 across the UK.³⁹ This corresponds to a similar level of ambition as the Government’s EPC C targets and envisages the insulation of 3.1 million cavity walls, 11 million lofts and 3.4 million solid walls (with a priority on homes occupied by fuel poor households, which make up 1.2 million of these), together with floor insulation, heating controls and other measures.⁴⁰ The total investment costs are estimated to be less than £10,000 per household on average and 63 per cent of homes need spend no more than £1,000 on retrofitting energy efficiency measures.⁴¹ Crucial to its calculation, the CCC excluded just over half of solid wall properties (4.6 million) and all houses in conservation areas (one million) from its estimates, significantly reducing the overall estimated costs. The CCC has also estimated that to upgrade energy efficiency of existing properties and to install low carbon heating methods would cost £250 billion to 2050 (see figure 2).⁴² Under this scenario, not all of the funding needs to come from central Government, but from a range of measures such as information and advice, minimum standards, financial incentives, low cost loans and preferential mortgage rates could be used.⁴³ These are explored further in chapter four.

36 BEIS Committee. 2019. Energy efficiency: building towards net zero: [Government Response to the Committee’s Twenty-First Report of Session 2017–19](#). 30 October 2019. Department for Business, Energy and Industrial Strategy (EEH0024)

37 BEIS Committee. 2019. Energy efficiency: building towards net zero: [Government Response to the Committee’s Twenty-First Report of Session 2017–19](#). 30 October 2019.

38 [Q266](#); [Q270](#)

39 Climate Change Committee. 2020. [The sixth carbon budget: The UK’s path to net zero](#)

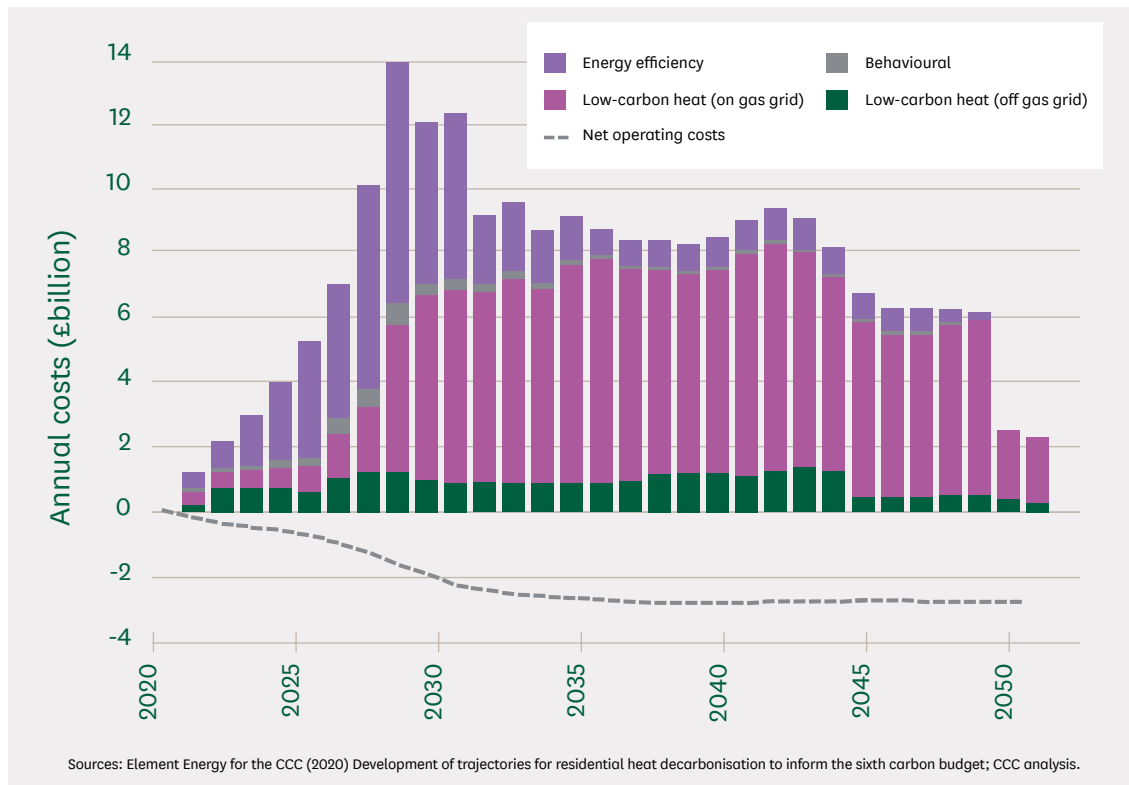
40 Climate Change Committee ([EEH0124](#))

41 Climate Change Committee. 2020. [The sixth carbon budget: The UK’s path to net zero](#), p 120

42 Climate Change Committee ([EEH0124](#))

43 Climate Change Committee ([EEH0124](#)) and CCC. 2016. [Best practice in residential energy efficiency policy: A review of international experience](#)

Figure 2: Sixth carbon budget modelling: existing homes. Household investment and operating costs, Balanced Pathway⁴⁴



18. The Energy Efficiency Infrastructure Group, a trade body, estimated that to improve all UK homes to an energy performance rating of C by 2030 would require £73 billion investment in total, (equivalent to an average of around £3800 per property), with at least £18 billion from public investment in addition to the Energy Company Obligation and Devolved Nation programmes, bringing the policy support total to £25 billion over ten years.⁴⁵ This is somewhat higher than the BEIS estimate, and represents investment over a shorter timeframe.

19. We heard from two housing providers that costs could be significantly higher. Estimates developed for Leeds City Council and BEIS had calculated that it would require an investment of approximately £7bn to upgrade all homes in Leeds (340,000) to Building Regulations Part L standard (equivalent to EPC level high C/ low B) to 2035. The average cost to upgrade a home in Leeds to Part L building regulations is presently £17,700,⁴⁶ and with an air source heat pump this figure rises to £23,900.⁴⁷ Karen Brown from the Northern Housing Consortium said that the Consortium’s “modest estimate” was an average of £19,300 per property, plus £5,000 for a heat pump.⁴⁸ These estimates are

44 Climate Change Committee. 2020. [The sixth carbon budget: The UK’s path to net zero](#), p 121 Element Energy for the CCC (2020) Development of trajectories for residential heat decarbonisation to inform the sixth carbon budget; CCC analysis.

45 Energy Efficiency Infrastructure Group. 2020. [Turning stimulus into recovery From the Green Homes Grant towards a resilient Net Zero economy](#), see also UKGBC (EEH0091) Energy Saving Trust (EEH0102)

46 £15,800 for a Victorian back-to-back, £21,400 for homes in affluent areas and £9,500 for tower blocks.

47 £21,600 for a Victorian back-to-back, £27,400 for homes in affluent areas and £17,700 for tower blocks. Economies of scale and process improvements are not taken into account. [Q173](#); Arup report for Leeds City Council and Department for Business, Energy and Industrial Strategy City Decarbonisation Delivery Plan, Leeds Intervention 1 Domestic Property Upgrades. July 2020.

48 [Q176](#)

significantly higher than the CCC and BEIS estimates for individual homes, but include both easy and hard to treat homes and represent retrofitting to a higher EPC standard (a high C/ low B).

20. In the BEIS calculation, an affordability limit was set at £5,000 plus a percentage of property value which was varied between two and four per cent.⁴⁹ Given the high average cost estimates for retrofitting properties in Leeds and elsewhere in the North of England, the homes reckoned in the estimates we describe above would not meet the Government's affordability and cost effective criteria. We are concerned that, under the Government's assumptions, this is a significant number of households who will be left behind without energy efficient homes and we are concerned about the impact this could have on their wellbeing and the value of their homes.

Funding

21. In its manifesto for the 2019 general election, the Conservative Party pledged that it would commit £9.2bn to energy efficiency measures, as follows:

- £3.8 billion over ten years to 2030 for a Social Housing Decarbonisation Fund: supporting the goal for all social housing to achieve EPC C by 2030.
- £2.5 billion over five years to 2025 for Home Upgrade Grants: support for deep renovation for low income households living in highly inefficient homes.
- £2.9 billion over five years to 2025 for a Public Sector Decarbonisation Scheme: support for the capital cost of upgrading the energy efficiency of schools and hospitals.⁵⁰

22. On 8th July 2020, the Chancellor of the Exchequer announced a package of energy efficiency measures, including £2 billion of funding for a Green Homes Grant, which we discuss in greater detail below. The outcome of the Spending Review 2020, announced in November 2020 and covering the financial year 2021/22, was to allocate a further £475 million to “make public buildings greener”, £150 million to “help some of the poorest homes become more energy efficient and cheaper to heat with low-carbon energy”,⁵¹ and a further £60 million to retrofit social housing. It also extended the Green Homes Grant with £320 million of funding in 2021–22.⁵² To date the Government has announced just over £4 billion of the £9.2 billion for energy efficiency measures pledged before the 2019 election (table 1) on top of Energy Company Obligation funding of £640 million a year. These schemes will be analysed in chapters three and four. In the Energy White Paper, the Government suggested that additional funding could be announced in a forthcoming Heat and Buildings strategy.⁵³ Table 2 provides a summary of the number of properties requiring an upgrade and the support available by tenure type.

49 BEIS Committee. 2019. Energy efficiency: building towards net zero: [Government Response to the Committee's Twenty-First Report of Session 2017–19](#). 30 October 2019.

50 Conservative and Unionist Party [manifesto 2019](#)

51 Confirmed in the fuel poverty strategy to be spent on Home Upgrade Grants

52 [CP 330 - Spending Review 2020 – November 2020 \(publishing.service.gov.uk\)](#) p41; [Fuel Poverty: 11 Dec 2020: Hansard Written Answers](#)

53 [What to look for in the Government's buildings decarbonisation plan | Energy & Climate Intelligence Unit \(eciu.net\)](#)

Table 1: Funding announced to date

Government Scheme	£bn promised	£bn announced
Public Sector Decarbonisation Fund*	2.9	1.475
Social Housing Decarbonisation Fund	3.8	0.05 (demonstrator) + 0.06 (spending review)
Home Upgrade Grants	2.5	0.15
Green Homes Grant (new)	Nil	2.32 **
Total	9.2	4.055

*analysis not included in this report since it does not relate to domestic properties
** not all of the £2bn of Green homes grant may not be spent (see discussion in chapter 4)

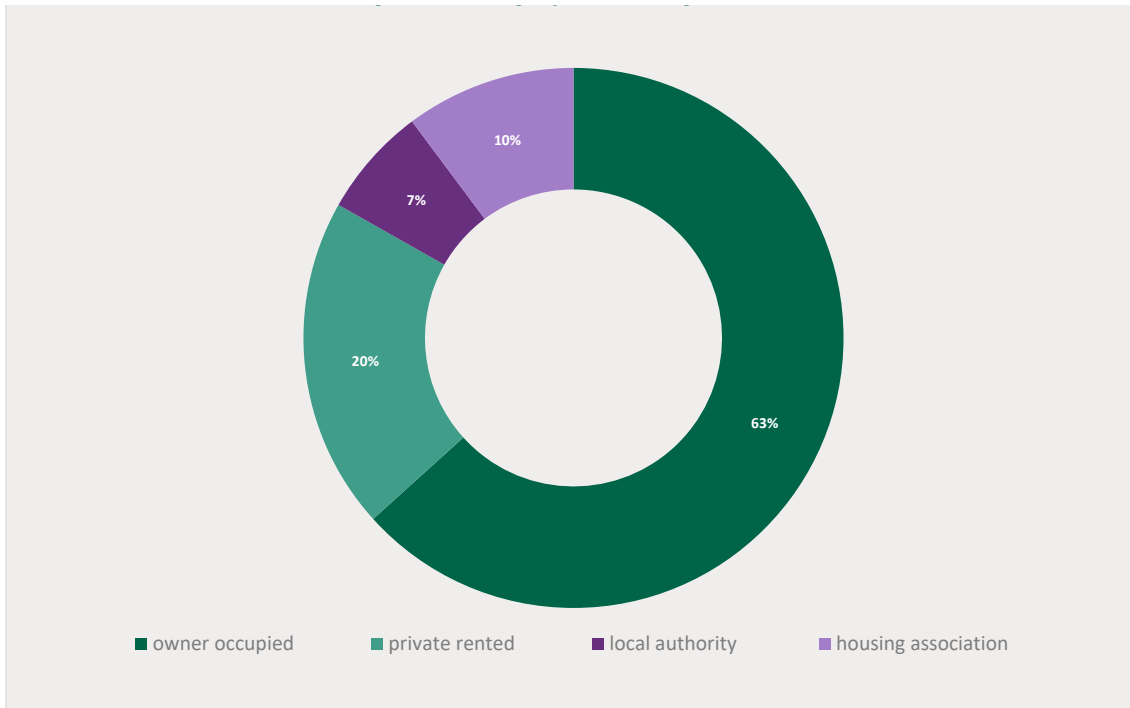
Table 2: Support by tenure type in England

Tenure type	No. of properties below EPC C*	Current target/ Aspiration**	Government support
Owner occupiers	10,849,000	EPC C by 2035 where cost effective, practical and affordable	Green Homes Grant Home Upgrade Grants Energy Company Obligation
Privately rented homes	3,239,000	EPC E by 2020 EPC C by 2025 (proposed) for new tenancies EPC by 2028 (proposed) for all tenancies	Green Homes Grant Energy Company Obligation (for tenants)
Socially rented homes	1,794,000	EPC C by 2035 where cost effective, practical and affordable	Green Homes Grant Social Housing Decarbonisation Fund Energy Company Obligation

* Climate Change Committee (EEH0124)
** HM Government. 2017. Clean Growth Strategy; BEIS. 2020. Improving the energy performance of privately rented homes

Types of tenure

23. Households are typically grouped into three broad categories, depending on the type of tenure of the property: owner occupiers, social renters and private renters. In 2018 there were an estimated 24.2 million dwellings in England, including both occupied and vacant homes. Of these, 15.3 million (63 per cent) were owner occupied, 4.8 million (20 per cent) were privately rented, 1.6 million (seven per cent) were rented from a local authority and 2.5 million (10 per cent) were socially rented housing association homes (figure 3).⁵⁴ Government policy has tended to be devised by type of tenure: properties in each type have their own challenges and possible solutions to the organising and financing of energy efficiency retrofits.

Figure 3: Dwellings by tenure in England, 2018⁵⁵

Owner occupied homes

24. ‘Owner occupiers’ are those that are outright owners or those that have a mortgage or are part of a shared ownership scheme. In 2018–19, 34 per cent of households were outright owners and 29 per cent owned their property with a mortgage.⁵⁶ There are over 10 million owner occupier households in England in properties with EPC bands below C (poorer performers).⁵⁷ Owner occupiers are often called the ‘able to pay’ sector: but since they also comprise the highest proportion of fuel poverty households across the three tenures, this is clearly a misnomer and an unhelpful generalisation.⁵⁸

25. Energy efficiency has been improving in this sector, owing to the improved efficiency of boilers (e.g. from the rollout of condensing boilers) and the installation of insulation in easy-to-reach spaces in many homes, such as lofts and cavity walls. Yet uptake of these measures has stalled, as Government support and incentives for energy saving have been reduced.⁵⁹ We heard that Government policy and investment could play an important role in incentivising innovation, either through funding to support financial product innovation or through guaranteeing schemes to mitigate the risk of investment by the privately owned sector.⁶⁰

55 Ministry of Housing and Local Government. 2020. [English Housing Survey 2018–19](#), Headline Report, p25

56 MHCLG.2020. [English Housing Survey 2018–19](#), Headline Report

57 40% of homes nationwide do not have an EPC certificate. [Improving home energy performance through lenders: Impact Assessment \(publishing.service.gov.uk\)](#); Climate Change Committee (EEH0124)

58 Committee on Fuel Poverty (EEH0037). There are 2.4 million households in fuel poverty representing 10.3% of all households in England: 51% of the fuel poor are owner occupied; 34% are in the private rented sector; and 15% are in social housing.

59 Committee on Climate Change, [UK housing: Fit for the future?](#) (Feb 2019): Page 11; Professor Nick Eyre, University of Oxford, [Ways to reduce the amount of heat and electricity we use in the home](#), UK Climate Assembly (Feb 2020)

60 Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#))

Privately rented homes

26. The private rented sector has a number of older properties which continue to be in the lowest energy efficiency bands.⁶¹ In 2018–19, the private rented sector had the highest proportion of homes which did not meet the Decent Homes Standard (25 per cent) compared to the social rented sector (12 per cent) and owner occupied homes (17 per cent).⁶² In the North of England, 67 per cent of the private rented sector at EPC band D or below, with 63,000 properties in the worst bands of F and G.⁶³ It appears that progress in the rental market has been constrained by “split incentives”, where landlords meet the costs of energy efficiency upgrades while tenants are perceived to reap the benefit from lower heating costs.⁶⁴ Minimum energy efficiency standards were introduced in 2018 for those wishing to rent their homes privately, making it illegal to enter a new tenancy agreement without an EPC rating of E or above unless specified exemptions apply, but we have heard that enforcement of such standards has been an issue.⁶⁵ Minimum standards are discussed in chapter four.

Social rented

27. The social rented sector is performing better than the private sector on energy efficiency, in part due to wider use of cavity wall insulation given the age profile of the estate, but also because it contains a higher proportion of flats, which have less exposed surface area (external walls and roofs) through which heat can be lost than detached or semi-detached houses.⁶⁶ Social landlords own these properties in perpetuity, so they have the opportunity to make more long-term decisions.⁶⁷ We heard that, since the introduction of the ‘right to buy’, no housing estates are wholly owned by a local authority. All such housing is now mixed tenure, meaning that area-based schemes that address all tenures are needed.⁶⁸

28. There is little that social tenants can do on their own to improve the energy efficiency of their homes, as they are reliant on the social landlord to implement changes. We heard that housing associations can deliver effective energy efficiency programmes at scale due to their expert knowledge of stock, understanding of customer behaviour and established partnerships with industry, government and service providers.⁶⁹ Local authorities with housing responsibilities are able to identify vulnerable households and draw together partnerships to lever in funding and align activity at a local level.⁷⁰ We also heard how they have a limited budget and have a limit on the rental income that can be charged.⁷¹ Rental income is usually spent on maintenance, so when it comes to some of the more expensive measures, where there is a longer payback, these authorities have to build a business case to gain access to funding. Leeds City Council told us it had used a range of

61 National Residential Landlords Association ([EEH0084](#))

62 MHCLG.2020. [English Housing Survey 2018–19](#), Headline Report

63 Northern Housing Consortium ([EEH0080](#))

64 BEIS Committee. 2019. [Energy efficiency: building towards net zero](#). HC1730

65 Chartered Institute of Environmental Health ([EEH0119](#));

66 MHCLG.2020. [English Housing Survey 2018–19](#), Headline Report

67 [Q165](#) [Russell Smith]

68 [Q190](#) [George Munson]

69 National Housing Federation ([EEH0022](#)); [Q190](#) [Karen Brown]

70 [Q190](#) [Karen Brown]; Local Government Association ([EEH0012](#)); see also [Qq190–195](#); Greater Manchester Combined Authority ([EEH0063](#)); Leeds City Council, Leeds City Council, Greater Manchester Combined Authority, Nottingham City Council ([EEH0039](#)); UKGBC ([EEH0091](#))

71 [Q165](#) [Russell Smith]

funding for energy efficiency projects including from the Energy Company Obligation, European Union funds such as the European Regional Development Fund, the feed-in tariff and the Renewable Heat Incentive.⁷² The preparation of business cases of this complexity requires local authorities to have project staff and many do not have adequate resources to allow this.⁷³

29. The scale of the challenge to retrofit existing homes to tackle the climate crisis is enormous. Energy efficiency is a precursor to the transition to low carbon heat, so action must be taken in the 2020s to set homes on a decarbonisation trajectory to meet our net zero targets. The Government’s current targets for domestic energy efficiency are set for an 80 per cent reduction in emissions by 2050 and not the net zero target established in law. Yet the Government is not on track to meet even this.

30. There is a wide variation in the costs for bringing all homes in the UK up to an EPC grade C. We have heard of costs averaging £18,000 to retrofit a property, before addition of a heat pump. Given that there are around 19 million properties in the UK in need of some energy efficiency upgrade, we consider that the overall cost to meet net zero from domestic buildings could be far more costly than the Government’s estimate of between £35 billion and £65 billion.

31. We recommend that the Government review the feasibility of its aspiration to achieve a minimum of EPC band C by 2035, given current progress on improving energy efficiency. As well as setting out how it plans to meet existing targets, it should set out a strategy to increase ambition in line with its commitment to net zero through its Heat and Buildings Strategy.

32. We recommend that BEIS review its cost projections on energy efficiency and includes the cost of low carbon heating. The Department should consult the building and retrofit sector to ensure that its top-down modelling reflects real-world costs. It should also set out the proportion of efficiency improvements it expects to be paid for from the public purse, and how many homes it considers out of scope for energy efficiency improvements under its definition of “cost effective, practical and affordable”. There is a danger that these homes will be left behind, and this could impact on wellbeing and create permanent blight. The Government should explain in response to this report what its strategy is for those homes that will not achieve its energy efficiency aspirations.

72 [Q167](#) [George Munson]; see also [Q190](#) [Karen Brown]

73 [Q189](#);

3 Current Government policy on domestic energy efficiency

33. This chapter provides a discussion on the Government's energy efficiency schemes in place at the end of the last Parliament, the Conservative Party's manifesto commitments for the 2019 general election, and policy initiatives subsequently announced in the Energy White Paper and the Prime Minister's Ten Point Plan for a Green Industrial Revolution.

The Energy Company Obligation (ECO)

34. The Energy Company Obligation (ECO) is the Government's primary mechanism for alleviating fuel poverty through energy efficiency (box 2). It requires the largest energy suppliers to install measures in homes.⁷⁴ All suppliers pass on their costs to their customers through a levy on energy bills, largely on electricity bills.⁷⁵ ECO, and its predecessor schemes, have prioritised low-cost measures, such as cavity wall and loft insulation. As these measures have been installed and the number of households able to benefit from them has diminished, harder to treat homes, needing more expensive improvements, are now in the majority. The rate of installations has fallen during ECO compared to its predecessor schemes, as easy to treat homes have been dealt with and costs have risen (figure 4).⁷⁶

Box 2: Fuel poverty

When compared with 30 other European countries it was found that the UK has the sixth-worst long-term rate of excess winter deaths.⁷⁷ Improving the energy efficiency of buildings plays a crucial role in tackling fuel poverty and will help bring down energy bills for the most vulnerable customers. A household is deemed to be in fuel poverty if it has required heating costs above the national median, and meeting these costs places the household below the poverty line. The poverty line in the UK is defined as a household income below 60 per cent of median income.⁷⁸ The Government has a statutory target to improve the homes of fuel poor households, "as far as reasonably practicable", to EPC Band C by 2030.⁷⁹ This target has two interim milestones of EPC E by 2020 and EPC D by 2025.

The Committee on Fuel Poverty (CFP) is an advisory Non-Departmental Public Body sponsored by BEIS providing monitoring of fuel poverty targets and independent, expert advice to ensure that the Strategy's milestones and target are met. The CFP's 2020 progress report showed that since the Government's Fuel Poverty Strategy was introduced in 2014/5, the number of households in fuel poverty in England had increased by 60,000 to 2.4 million.⁸⁰ It expects the fuel poverty targets to be missed.⁸¹

74 Suppliers can install measures, or contract installers, either directly or through public auctions over a 'brokerage platform'

75 OFGEM. 2021. [Infographic: Bills, prices and profits](#)

76 Green Alliance. 2019. [Reinventing retrofit](#)

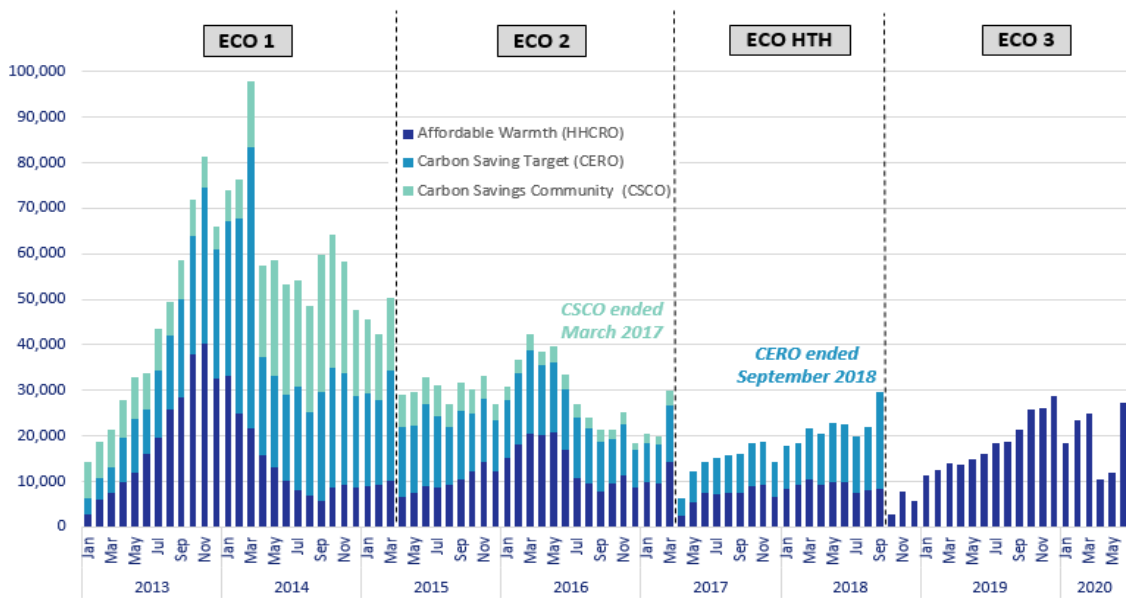
77 Policy Connect (PFI0051); IPPR (PFI0027)

78 Child poverty action group <https://cpag.org.uk/child-poverty/measuring-poverty>

79 HM Government, 2015. [Cutting the cost of keeping warm: A fuel poverty strategy for England](#)

80 Committee on Fuel Poverty, 2020. [Annual report](#)

81 Committee on Fuel Poverty ([EEH0037](#))

Figure 4: ECO measures installed, by obligation, by month, up to end October 2020⁸²

35. Jenny Holland, from the UK Green Building Council, told us that as a scheme for tackling fuel poverty, ECO was not very effective as it was inherently regressive.⁸³ Michael Lewis, CEO at E.ON, explained that, for the lowest income people around 1.5 per cent of their household income was spent on such schemes: if funding for such schemes were taken from to general taxation, the burden would move towards higher income households who were more able to pay. This would make the transition to net zero more acceptable to the wider population.⁸⁴ Simon Bittlestone, audit manager at the National Audit Office, told us that the transparency, governance and oversight of measures implemented under the ECO was potentially not as strong as that for schemes funded by the Exchequer out of general taxation. He added that the Government used to publish a breakdown on of how much each of these schemes cost and also how much they save, but had not done so since 2014.⁸⁵

36. Jenny Holland warned that ECO funding was simply not compatible with the delivery of whole-house retrofits as it tended to deliver single energy efficiency measures only.⁸⁶ Karen Brown from the Northern Housing Consortium also noted this issue:

[... If] you get ECO funding for one measure you cannot blend that in with other funding. It is obviously useful, but it is ad hoc and it is just one measure at a time and does not move things forwards at any pace or scale.⁸⁷

37. Dr Joanne Wade, of the Association for Decentralised Energy, said that ECO was delivering “a lot of good measures and a lot of help for people, but it is not solving the problem because not enough money is being invested”.⁸⁸ Jenny Holland explained that Scotland, Wales and Northern Ireland supported locally-led fuel poverty schemes, whilst England had the “dubious distinction” of not spending public money on fuel poverty

82 [Household Energy Efficiency Statistics, headline release December 2020 - GOV.UK \(www.gov.uk\)](#)

83 [Q63](#)

84 [Q61–62](#)

85 [Q35; Estimated impacts of energy and climate change policies on energy prices and bills: 2014](#)

86 [Q63](#)

87 [Q172](#)

88 [Q138](#)

(apart from the newly launched Green Homes Grant for fuel poor households).⁸⁹ She said that ECO's focus on low-income and vulnerable households should continue, but that additional Exchequer funding was needed.

38. As we have noted during our work on heat pumps as part of our inquiry into technological innovation and climate change, the Government has placed low carbon policy costs, including ECO, on the electricity side of consumer bills.⁹⁰ At present, environmental and social charges account for 23 per cent of electricity bills on average, compared to two per cent for gas.⁹¹ This acts as a significant barrier to heat pump adoption. We were told that a revision of the policy costs across gas and electricity could significantly improve the customer case for heat pumps, making them cheaper than gas boilers to run in many more domestic settings.⁹²

39. In the Energy White Paper the Government announced an extension to ECO from 2022 to 2026, and indicated that it would in future be focused primarily on improving the worst-quality homes across Great Britain, complementing the upcoming Home Upgrade Grant scheme in England and equivalent schemes in the devolved administrations.⁹³ We asked Kemi Badenoch MP, Exchequer Secretary to the Treasury, whether the Treasury would consider funding ECO from taxpayers bills. She responded:

The energy company obligation is a proven delivery model. It has upgraded more than two million homes, which confirms that that approach works and helps to provide the energy efficiency industry with the confidence to invest now in jobs and training. We should not be looking at it as a tax; we should be looking at it as exactly what it is trying to do. The Government are committed to keeping bills under control. We need to consider the distribution across when we are designing policy. We believe that we have minimised the impact on bills, while maintaining fiscal discipline. There are many different ways in which we can achieve energy efficiency. We cannot do it all through spending or through tax; some of it has to be regulatory and within schemes such as ECO. We believe that it is working.⁹⁴

40. Since we gathered the evidence in this inquiry, in February 2021 the Government published its fuel poverty strategy for England, originally expected in 2019.⁹⁵ Funding for ECO is to increase from £640 million to £1 billion per year between 2022 and 2026.

41. While the energy efficiency of two million homes has been successfully upgraded under the ECO, the number of measures installed has reduced significantly in recent years and the Government's fuel poverty targets are not expected to be met. The inability to use ECO with other sources of funding is hampering the deeper retrofits that are needed in social housing. Since ECO is funded by all energy bill payers, the poorest pay proportionally the most for the benefits from the scheme: this makes it a regressive policy.

89 Q49

90 Letter from the Chair to Kwasi Kwarteng MP [Correspondence \(parliament.uk\)](https://www.parliament.uk/correspondence/2020/12/21/letter-from-the-chair-to-kwasi-kwarteng-mp), 21 December 2020.

91 [Infographic: Bills, prices and profits | Ofgem](#); [accessed 25/02/2021]

92 Q4, Q9 [Emma Pinchbeck]

93 BEIS. 2020. [Energy White Paper: Powering our net zero future](#), p108

94 Q306

95 BEIS. 2021. [Sustainable warmth: protecting vulnerable households in England](#)

42. We support the extension of ECO to 2026 and the extra funding announced in the Fuel Poverty Strategy. The Government must review whether ECO is still delivering value for money and whether the energy bill is the most appropriate, fair and effective means of funding the scheme, since the poorest households pay disproportionately towards its costs.

43. *We recommend the Government reviews the way ECO is funded, in common with the other policy costs that are added to consumer electricity bills rather than gas. Disproportionate use of this regressive funding mechanism is hampering the adoption of low carbon heating options such as heat pumps. We recommend that the Government consults on the balance of levies on electricity versus gas/other fossil fuel heating sources, in order to encourage the uptake of electrifying home heating through the adoption of heat pumps.*

Home Upgrade Grants (HUGs)

44. Home Upgrade Grants (HUGs) were pledged in the Conservative Party manifesto for the 2019 general election to support deep renovation measures for low income households living in highly inefficient homes.⁹⁶ £2.5 billion was pledged over the five years to 2025. In the 2020 Spending Review, £150 million was allocated to HUGs for the financial year 2021–22.⁹⁷

45. Witnesses to our inquiry suggested different possible roles and delivery bodies for this grant programme, in the absence of further information about the Government's plans for the scheme:

- Peter Smith from National Energy Action said he thought it could be used to target off grid homes and the fuel poor in rural areas.⁹⁸
- E.ON said it should also be available to top up ECO funding where measures could not be fully funded through ECO.⁹⁹
- Greater Manchester Combined Authority told us it could be used as matched funding where ECO criteria have not been met.¹⁰⁰
- The Coalition for the Energy Efficiency of Buildings and the Zero Carbon Campaign supported its use for area based scheme delivery by local authorities.¹⁰¹
- The Association for Decentralised Energy (ADE) said fuel poverty charities and local authorities might be better placed to coordinate funding and delivery of the scheme.¹⁰²

96 Conservative and Unionist Party [Manifesto 2019](#)

97 The Spending Review announced £150m to “help some of the poorest homes become more energy efficient and cheaper to heat with low-carbon energy”, which was later confirmed in the fuel poverty strategy for Home Upgrade Grants. [CP 330 - Spending Review 2020 – November 2020](#) p41; [Fuel Poverty: 11 Dec 2020: Hansard Written Answers](#); BEIS. 2021. [Sustainable warmth: protecting vulnerable households in England](#)

98 [Q143](#);

99 E.ON UK ([EEH0069](#))

100 Greater Manchester Combined Authority ([EEH0063](#)); see also E.ON UK ([EEH0069](#))

101 Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#)); The Zero Carbon Campaign ([EEH0013](#)); see also JJ Crump and Son ([EEH0010](#))

102 The Association for Decentralised Energy ([EEH0060](#))

46. In the Energy White Paper in December 2020, the Government clarified that the grants would be used to improve the “worst-quality off-gas grid homes” in England, supporting the installation of energy efficiency measures and low-carbon heating. ECO and HUG would both focus support on low-income households.¹⁰³ In its update to the Fuel Poverty Strategy, the Government said that the scheme would commence in early 2022.¹⁰⁴

47. Approximately 1.5 million homes in the UK are not connected to the gas grid and depend on oil for heating, and a further 200,000 use liquified petroleum gas (LPG).¹⁰⁵ Joanne Wade from ADE told us that rural homes off the gas grid should be prioritised for low carbon heat pumps:

Let’s start with the ones off the gas grid. You can make a clear case, for example, for some rural homes in saying, “This is a good idea for a heat pump”. That is where you can start to build those supply chains. It is obvious that you need a highly efficient home with a heat pump in this circumstance. The answer for that home is clear. Let’s start with those.¹⁰⁶

48. She added that rural homes were diverse and had different types of tenure, so the introduction of heat pumps in rural properties could be financed in different ways.¹⁰⁷ Peter Smith said that HUGs should be introduced to tackle fuel poverty in rural areas for those living in the least efficient homes since ECO was “not effective in terms of addressing improvements in villages, hamlets and isolated dwellings”.¹⁰⁸ He said there were over 200,000 fuel-poor households in such rural settings, which were more isolated than those classified as being in rural areas but which might in fact be in large rural towns. Jonathan Ducker from Kingspan also noted this gap for rural homes in fuel poverty. He explained that ECO was not tackling homes with solid walls, as energy efficiency measures in such properties were expensive, and energy companies focused primarily on delivering on the obligation in the cheapest way they could.¹⁰⁹

49. In the course of our inquiry into technological innovation and climate change we have heard about the higher costs of heat pumps compared to traditional heating systems.¹¹⁰ Although the costs of heat pumps are due to fall in the future, a report for BEIS found the costs of the work involved to prepare and fully install an air source heat pump to be between £14,750 and £21,550 depending on the size of the property.¹¹¹ The Northern Housing Consortium told us that it cost an £19,300 for energy efficiency retrofit of an average privately owned domestic property, and an additional £5,000 for a heat pump.¹¹²

50. We welcome the clarification provided in the Energy White Paper that Home Upgrade Grants will focus on the worst-quality off-gas grid homes with low income households in England. We consider that this focus is the right one. Using the indicative costs for improving energy efficiency and heat pump installation and the

103 BEIS. 2020. [Energy White Paper: Powering our net zero future](#), p109

104 BEIS. 2021. [Sustainable warmth: protecting vulnerable households in England](#)

105 OFTEC (EEH0113)

106 [Q148](#) [Dr Wade]

107 [Q148](#)

108 [Q150](#)

109 [Q149](#)

110 [Q9](#) [Emma Pinchbeck]

111 Delta-EE. 2018. [The cost of installing heating measures in domestic properties](#)

112 [Q176](#); IPPR. 2020. [Northern Powerhomes: A green recovery plan to decarbonise homes in the North](#)

Government's pledged £2.5bn, we estimate around 100,000 homes may benefit from the scheme. This is welcome, but represents a fraction of the 1.5 million households off the gas grid who will need further support to upgrade their homes, irrespective of tenure in view of the high costs involved.

51. *We recommend that Home Upgrade Grants are launched in full before the end of 2021, backed by the entirety of the funding pledged for the scheme, to mobilise supply chains for low carbon heating. The Government should also set out how it intends to administer the scheme and what role there will be for local authorities who are well placed to identify vulnerable households.*

The Green Homes Grant (GHG)

52. The Green Homes Grant (GHG) provides vouchers worth up to £5,000 for energy-saving improvements. The £2bn grant scheme is split into two parts: a £1.5 billion voucher scheme and a £500 million Local Authority Delivery scheme.¹¹³ Alongside the scheme the Government launched the Green Homes Grant Skills Training competition (which is discussed in chapter four). The GHG was devised as an economic stimulus package in response to the covid-19 pandemic and was intended to mobilise the energy efficiency supply chain. Shortly after its launch in September 2020, the then Secretary of State for Business, Energy and Industrial Strategy, Rt Hon Alok Sharma MP, told us that the GHG would target the improvement of 600,000 homes between September 2020 and March 2021.¹¹⁴ According to polling by YouGov commissioned by the Energy and Climate Intelligence Unit, 22 times more households were interested in taking part in the scheme than it had capacity for.¹¹⁵

53. At an early stage, concerns were being expressed about the design of the policy and its capacity to mobilise the supply chain as planned. By November 2020, the low number of vouchers issued appeared to have spurred the Government to extend the scheme by a further year, to March 2022, and to provide additional funding.¹¹⁶ George Munson, of Leeds City Council, said that this would still not be enough to drive the supply chain.¹¹⁷ Russell Smith from RetrofitWorks agreed, and told us that "it is not about being thrown money. It is about saying there is a viable business opportunity in the long term".¹¹⁸ Brian Berry from the Federation of Master Builders observed that

The market needs certainty because small companies are not going to invest unless they know there is a long-term market. [...] If we want to tackle energy efficiency in our homes, we need to grow the market, we need to give encouragement to these small companies that this is not just a flash in the pan, it is not going to be a repeat of the Green Deal and it is not going to be a 12-month programme. This is a 20-year programme to transform our existing homes.¹¹⁹

113 [Greener homes, jobs and cheaper bills on the way as government launches biggest upgrade of nation's buildings in a generation](#), press release, 30 September 2020

114 [Q46](#), BEIS Secretary of State session, 10 September 2020

115 ECIU. [Green Homes Grant polling: policy implications of a predicted surge in demand](#), September 2020

116 BEIS. [Green Homes Grant extended for extra year](#), 18 November 2020

117 [Qq184–185](#)

118 [Q186](#)

119 [Q227](#); [Q231](#)

Consumer and company feedback on the scheme

54. We conducted our own consumer survey in November, to identify the reasons behind the apparent early underperformance of the scheme against the ambitions Ministers had expressed for it.¹²⁰ Of the 414 householders who responded to the survey and applied for the grant, 348 (84 per cent) had had a poor experience with the process. We wrote to Rt Hon Kwasi Kwarteng MP, then Energy Minister, in December 2020 with the results and asked for short term action to be taken on some of the issues the survey had highlighted: resolving the confusion around primary and secondary measures, streamlining the quotation process and ensuring enough registered installers were available.¹²¹

55. The scheme distinguishes between primary and secondary energy efficiency measures. Homeowners must install primary measures before being able to receive the same funding towards secondary measures. Brian Berry, Chief Executive of the Federation of Master Builders, told us that this was confusing and could be simplified.¹²² The British Energy Efficiency Federation said it had “created a major limiting factor” in terms of the full extent of measures that could be installed in a home and said the scheme should also include measures such as high efficiency LED lighting and ‘older’ double glazing to modern double or triple glazing.¹²³ Jenny Holland, from the UK Green Building Council, told us that this would also pose a problem with the sequencing of the energy efficiency measures. For instance, draught-proofing and heating controls were classified as secondary efficiency measures under the scheme, but ought to be in place before the installation of a heat pump, which require a property to be energy efficient to be effective.¹²⁴

56. In a written answer, the Minister of State for Energy and Clean Growth, Rt Hon Anne-Marie Trevelyan MP, told the House that the primary measures were chosen because they supported jobs, were cost effective and would have a large impact on carbon emissions: the measures identified as secondary under the scheme had a more limited impact on carbon emissions, but still offered benefits in terms of energy efficiency.¹²⁵

57. According to BEIS figures in December 2020, just under 60,000 vouchers had been applied for.¹²⁶ A published answer to a request under the Freedom of Information Act 2000 showed that as of 31 December 2020, 11,645 vouchers had been issued under the scheme.¹²⁷ The Energy Efficiency Association told us that “if there are further delays to the scheme, and vouchers are not being redeemed by mid-January 2021, the installers will not be hiring but instead there will be lay-offs and redundancies”.¹²⁸ We have since heard evidence from the industry that small companies are having orders cancelled and having to lay off staff. Eco SprayFoam Systems Ltd, an insulation contractor, told us:

In principle the initiative is a great idea but in reality, it has failed our business and the industry. The scheme is now three and a half months old and:

120 Details of the survey outcomes can be found in the Annex to this report.

121 Chair to Rt Hon Kwasi Kwarteng MP, [Energy efficiency of existing homes: Feedback from our survey on the Green Homes Grant](#), 11 December 2020

122 [Q249](#)

123 British Energy Efficiency Federation ([EEH0123](#))

124 [Q68-72](#)

125 UIN 149151, tabled on 4 February 2021 UK Parliament [Written questions and answers](#)

126 Energy Efficiency Association ([GRJ0006](#));

127 BEIS FOI2021:00079

128 Energy Efficiency Association ([GRJ0006](#));

- revenue has decreased by at least 40%
- administration and costs have increased by 300%
- for the first time in years the company's cashflow will be negative
- we are reviewing cutting our staff by 40%

Our credibility with customers has never been at such a low point due to mistakes with the GHG communication with customers.¹²⁹

58. Use the Sun Ltd said that the grant had had the exact opposite effect on the industry it was meant to have, with orders cancelled and jobs being affected:

In September 2020 ours, and every company I know, was expanding with orders streaming in. Then it was announced that there would be a grant coming soon. The market came to a shuddering halt as customers put their installations on hold whilst applying for the Grant. No Grant in September or October left six weeks with hardly any work. A few trickled through mid-November, by Christmas we had five vouchers, half our sales team had left and we were using reserves to pay the back office staff.¹³⁰

59. Insulated Homes Ltd said it had a full order book of clients wanting their homes insulated but lost every order it had as customers were waiting to apply for funding:

We had to lay off the two office staff and one surveyor, the other surveyor then went part time. I have had to lay off three of my install teams and am hoping and praying they will come back when we actually get a voucher, it takes years to fully train an installer in our specialist field and some of my men have been with me for over 15 years. [...]

I have spoken with many other insulation companies and most are in a worse situation than I am, one company director I spoke with today told me he had to re-mortgage his house to pay his staff wages and again lost his entire order book due to this scheme.¹³¹

60. Respondents to our survey said that quotes were expected to fulfil an onerous checklist which were not specified at the point of application, leading to quotes expiring. For example, quotes would only be accepted if they included the number of hours required for the job and detailed the access to utilities. The scheme suggested that three quotes needed to be provided, but homeowners were finding this difficult as there were so few accredited installers.¹³²

129 EcoSpray-Foam Systems Ltd ([EEH0133](#))

130 Use the Sun Ltd ([EEH0134](#))

131 Ann Barradine ([EEH0131](#))

132 [Chair to BEIS, GHG survey, 11 Dec 2020](#)

61. Lord Callanan, Parliamentary Under Secretary of State at the Department for Business, Energy and Industrial Strategy wrote to us in January 2021 stating that 16,000 vouchers had been issued.¹³³ He told us it was not a requirement to have three quotations.¹³⁴ Since this was not clear on the application it may have inhibited applications. In response to a parliamentary question on the delays in companies receiving payments, Anne-Marie Trevelyan said:

The scheme administrator is working to ensure vouchers are paid as quickly as possible. Payment to installers is a four-step process. It requires the customer to confirm the work has been completed, the installer to lodge the work and the scheme administrator to undertake scheme checks before they can proceed to payment. Once it has reached the payment stage, the administrator aims to make payments within five-working days. However, if an inspection is deemed necessary then the process will take longer, especially given the current covid-19 restrictions.¹³⁵

Trustmark

62. To carry out home improvements as part of the GHG, tradespeople need to be registered with TrustMark and have Microgeneration Certification Scheme (MCS) or Publicly Accessible Standards (PAS 2035:2019) certification.¹³⁶ Robert Tiffin, owner-director of Eco Tiffin, stressed that there was not enough time for installers to get PAS certified to become registered with Trustmark:

If you take somebody that is a competent contractor that wants to do this, he is going to need at least three to four months to become PAS 2030 certified. He is going to need at least £2,500, and if he does not have a secretary or PA a lot of his own time in understanding it and dealing with it.¹³⁷

63. Simon Ayers, chief executive of TrustMark, disputed this and said that the average cost of accreditation was between £700 and £750 for PAS certification, including Trustmark registration. He said that if an installer had been trained and had a good understanding of building physics, then the accreditation could be achieved in as little as 10 to 12 days.¹³⁸ Peter Smith, of National Energy Action, said that it was right to require installers to have the TrustMark standard and said in his view, quality standards were non-negotiable, though he accepted that the requirement was creating “teething problems” for the delivery of the scheme.¹³⁹ Brian Berry from the Federation of Master Builders (FMB) said that the need for PAS accreditation improved overall standards and protected workers in the building industry.¹⁴⁰ He was concerned that the GHG had been announced before any

133 [BEIS to Chair regarding Green Homes Grant Scheme, 22 January 2021](#). In a meeting on 5 February 2021 the Minister told the Chair that 20,000 vouchers had been issued to date.

134 Meeting between Lord Callanan and the Chair, 5th February 2021

135 UIN 147948, tabled on 2 February 2021 [Written questions and answers](#)

136 Department for Business, Energy and Industrial Strategy ([EEH0024](#)). PAS 2035:2019 Retrofitting Dwellings for Improved Energy Efficiency’ sets out guidelines for energy efficiency contractors. The document also lays down minimum standards of qualification, roles and responsibilities for anyone carrying out retrofitting. PAS 2030:2019 is the industry specification which is linked to guidelines of PAS 2035. It is the standard to which all energy efficiency installers must be certified and compliant.

137 [Q158](#)

138 [Qq247–248](#)

139 [Q146](#); see also [Q187](#) [Russell Smith]

140 [Q236](#)

consultation with the building industry, which was the sector expected to undertake the work.¹⁴¹ He told us on 18th November that 180 FMB members had expressed an interest in the scheme but only three had so far become accredited.¹⁴² He thought there was “a lot of confusion” for small building companies who consider that Trustmark accreditation is sufficient, without realising they need to be PAS 2030 accredited.¹⁴³

64. TrustMark told us on 18th November 2020 that it had just over 1,200 businesses that were PAS accredited and able to take part in the Green Homes Grant scheme. Around 20,000 subcontractors would be working further down the supply chain for these 1,200 businesses.¹⁴⁴ Typically, the sector is made up of very small contractors.¹⁴⁵ When we asked how the Green Homes Grant would deliver the Government’s ambitions for the creation of 100,000 jobs when most construction companies are SMEs, Kwasi Kwarteng responded:

Anecdotally I was being told that people who could do these installations felt that because the scheme was only going to run for six months, they didn’t have the incentive to get the necessary accreditation. Now we have announced, as you know, that we are going to extend the scheme to the end of March 2022. Obviously, time will tell, but we feel that the extension will encourage more installers and more traders to seek the TrustMark and therefore increase the capacity, the number of people who can actually deliver on installing the measures.¹⁴⁶

Funding

65. The scheme was launched with £1.5bn of funding for its vouchers. In November 2020 the Government allocated an additional £320 million in the Spending Review, and extended the scheme for a further year.¹⁴⁷ It has since become apparent that the original £1.5bn in funding was only allocated for use in the 2020/21 financial year: any unspent cash may not be carried over to fund grants from April 2021. In answer to a written question, Anne-Marie Trevelyan said:

The original funding for the Green Homes Grant Voucher Scheme was announced as a short-term stimulus, for use in the 2020/21 financial year only. In the 2020 Spending Review, my Rt. Hon. Friend Mr Chancellor of the Exchequer announced £320 million of funding for the Green Homes Grant Voucher Scheme for 2021/22, as part of funding allocated to make homes and buildings more energy efficient and less carbon intensive.¹⁴⁸

66. As of 8th February 2021, 22,165 vouchers had been issued to customers, with a value of £94.1 million.¹⁴⁹ This is around six per cent of the initial £1.5bn budget.

141 [Q249](#)

142 [Q244](#)

143 [Q249](#)

144 [Q242](#)

145 [Q186](#)

146 [Q298](#)

147 [CP 330 - Spending Review 2020 – November 2020](#), p41

148 UIN 145087, tabled on 28 January 2021 [Written questions and answers, UK Parliament](#)

149 UIN 150963, tabled on 8 February 2021 [Written questions and answers, UK Parliament](#)

Early termination of the scheme

67. On the 19th February 2021, *The Times* newspaper reported that the Green Homes Grant was to come to an end in March 2021.¹⁵⁰ A Government spokesperson said:

The green homes grant voucher scheme was designed to provide a short-term economic stimulus while tackling our contribution to climate change. However, the prevalence of Covid-19 since the scheme's launch in September last year has led to an understandable reluctance on the part of the public to welcome tradespeople into their homes.¹⁵¹

68. There is no prohibition in law on tradespeople entering domestic properties to carry out work, though Government guidance recommends that protective measures are observed.¹⁵² We received no evidence that householders had been unwilling to have installers in for reasons connected with covid-19. The vast majority we heard from had experienced challenges in finding a tradesperson who was TrustMark registered and available to quote for the job, or to undertake the work required if the application was approved in time. The companies that we heard from were oversubscribed with work orders, but unable to deliver the installations requested, since the administration of the scheme and payment of vouchers were holding them back.¹⁵³ The EEIG, CBI, Energy UK and others wrote to the Chancellor of the Exchequer in February 2021 urging him to keep the GHG, in the year that the UK hosts COP26, as a measure contributing to achievement of the UK's net zero targets by 2050.¹⁵⁴ In the 2021 Budget the scheme was not scrapped so it will continue to March 2022 with a reduced budget of £320m. Kemi Badenoch confirmed this to us the following day,

... the green homes grant is a policy that has not quite worked in the way that we wanted it to and we are looking at how we can improve it.¹⁵⁵

69. We welcome the Government's introduction of a scheme for owner occupiers to fund energy efficiency improvements. Such a scheme is essential in order to achieve the ambition to reach energy efficient homes by 2030, given this is by far the largest pool of housing stock across the UK. But the Green Homes Grant has been rushed in conception and poorly implemented. In its haste to create a scheme to deliver economic stimulus, the Government failed to consult industry adequately on its delivery, set a timescale which was overly short term and has presided over scheme administration which appears nothing short of disastrous. If the ambition for the scheme to retrofit 600,000 homes envisaged completion of the work by the end of the current financial year, then the Government has been wildly optimistic in its scheme planning and industry engagement. The impact of its botched implementation has had devastating consequences on many of the builders and installers that can do the work, who have been left in limbo as a result of the orders cancelled and time taken to approve applications.

150 [The Times, £1.5 billion Green Homes Grant faces axe after a year](#), 19 February 2021

151 [The Times, £1.5 billion Green Homes Grant faces axe after a year](#), 19 February 2021

152 [Other people's homes - Working safely during coronavirus \(COVID-19\) Guidance](#) [accessed 26/02/2021]

153 [Use the Sun Ltd \(EEH0134\)](#); [Ann Barradine \(EEH0131\)](#); [EcoSpray-Foam Systems Ltd \(EEH0133\)](#)

154 [EEIG'S Pre Budget letter to Chancellor, Rishi Sunak MP](#), 23 February 2021

155 [Q282](#)

70. It is commendable that the Government has been keen to avoid fraud in administration of the scheme by only allowing Trustmark and PAS registered companies to participate. But the anti-fraud precautions have been so complex that vouchers are simply not being issued. Consumers are frustrated by delays in delivery, and the industry which the scheme was set up to support has been completely failed. Companies are losing orders, laying off staff and have warned they may close altogether. Extraordinarily, rather than providing an economic stimulus for sector recovery, the scheme's operation may have reduced its capacity in the short term.

71. *We recommend that the Green Homes Grant scheme be urgently overhauled and extended to provide a genuine long-term stimulus to the domestic energy efficiency sector. The scheme should not be scrapped or quietly wound down. The Government must address the design and administration issues with the scheme, and all allocated funding that has not been spent by the end of March 2021 should be rolled over into the next financial year. A multi-annual scheme must be delivered to provide the financial support to owner occupiers and build trust within the industry to encourage installers to get accredited and enable companies to hire staff. In its response to this report the Government should set out how it intends to revise the types of measures included in the scheme, streamline the application process, including the number of quotes required for application, and remove unnecessary bureaucracy at every step.*

72. Sustained delivery of measures to support the transition to a 68 per cent reduction in emissions by 2030, and net zero by 2050, will require strategic planning and thorough engagement with all stakeholders. The Government's strategic ambitions here require multi-annual spending commitments which may need to supersede Spending Review perspectives. Short-term tactical fixes in this sector, designed to deliver quick wins, have been proven to be counterproductive when not designed as part of an overall strategy.

73. *We recommend that BEIS and the Treasury undertake a joint review of the preparation, launch, funding and delivery of the Green Homes Grant programme, and that the recommendations of that review be applied to all cross-Government working on programmes to deliver net zero objectives.*

The Green Homes Grant Local Authority Delivery scheme

74. The Green Homes Grant Local Authority Delivery (LAD) scheme was announced in July 2020, providing £500 million allocated to local authorities to support low-income, fuel poor households.¹⁵⁶ The scheme aims to raise the energy efficiency of low energy performance homes (those rated at EPC Bands E, F or G), including off-gas grid homes. Its focus is on owner occupiers and those in the private and social rented sector with a household income of under £30,000 across England. The initial phase of the scheme provided £200 million funding to March 2021.¹⁵⁷ A second round was launched to September 2021, providing £300 million for Local Energy Hubs in England to support the upgrading of eligible homes.¹⁵⁸

156 [Greener homes, jobs and cheaper bills on the way as government launches biggest upgrade of nation's buildings in a generation](#), Government press release, 30 September 2020

157 Alok Sharma letter to MPs, Green Homes Grant: Local Authority funded schemes, 29 October 2020

158 BEIS. 2020. [Green Homes Grant Local Authority Delivery scheme: entering a bid](#)

75. Karen Brown, from the Northern Housing Consortium, warned that the initial four week application deadline and the amount of information required to be provided meant that only schemes that were bid-ready could apply.¹⁵⁹ The British Energy Efficiency Federation told us in November that the tight timescales for application were already showing signs of underspend.¹⁶⁰ George Munson from Leeds City Council was more positive: he said it was a “fantastic opportunity” because it could provide a solution to all of the homes within an area regardless of tenure.¹⁶¹ He said:

We absolutely love area-based projects. It is something that we have been trying to do in Leeds for a number of years. We have always had to stitch different sources of funding together, often with different eligibility criteria. We might have one offer for private rented, a completely different offer for owner-occupiers and then something that is there for social housing. The complexity that brings means it is very hard to sell.¹⁶²

The benefit of taking an area-based approach is that local authorities and social housing providers can use their homes as a catalyst to get contractors into an area, create economies of scale and get the community excited about the benefits of energy efficiency. A neighbourhood approach will improve the visual impact of the appearance of external insulation.¹⁶³ Involving owner-occupiers and the private rented sector is more efficient and means a whole neighbourhood can be improved in one go.¹⁶⁴

76. Karen Brown cautioned that local authorities did not in general have the capacity to undertake the coordination work required for such applications, and since the scheme was short term it would not build the capacity necessary at local authority level.¹⁶⁵ George Munson confirmed that “finances and staff availability in local authorities [was] a long way down on where it was a few years ago”.¹⁶⁶ He was encouraged by the partnership working being undertaken between local authorities, local enterprise partnerships (LEPs) and BEIS energy hubs. Leeds City Region had benefited from the staffing resource in the LEP to take ideas through to a business case and delivery. He said that utilising the energy hubs, to help make sure local authorities had the right roadmap, would help with capacity while local authorities built up their project management resources.¹⁶⁷

77. We welcome the Green Homes Grant Local Authority Delivery scheme, and, in particular, the fact that it can be used to deliver improvements across all tenures. We consider that it has real potential to help build local authority capacity and energy efficiency supply chains by supporting area based approaches.

78. We recommend that, following an evaluation of Phase Two, the scheme is expanded with a larger budget, over a multi-year period, and a greater role for BEIS’s local energy hubs to supplement local authority capacity.

159 [Q171](#), see also [Q58](#) [Michael Lewis]

160 British Energy Efficiency Federation ([EEH0123](#)), 16 November 2021

161 [Q171](#)

162 [Q190](#)

163 Northern Housing Consortium ([EEH0080](#))

164 [Q192](#)

165 [Q188](#)

166 [Q189](#)

167 [Q189](#)

The Social Housing Decarbonisation Fund (SHDF)

79. The National Infrastructure Commission's 2018 National Infrastructure Assessment made recommendations on improving the energy efficiency of social housing. It recommended that the Government allocate £3.8 billion between 2018 and 2030 to prioritise energy efficiency improvements in the social rented sector.¹⁶⁸ In its manifesto for the 2019 general election, the Conservative Party pledged to spend £3.8bn over ten years on a Social Housing Decarbonisation Fund (SHDF), with £60m pledged for 2020–21, £240m in 2022–23 and £410m in 2023–24.¹⁶⁹ To date, one tranche of this pledged funding has been allocated for expenditure: £60m funding was allocated in the November 2020 spending review, for use in the 2021–22 financial year.¹⁷⁰

80. The Committee on Fuel Poverty recommended that the full £3.8bn pledged to the scheme should be allocated for spending, and that upgrading the energy efficiency of social housing homes of fuel poor households should be prioritised.¹⁷¹ The Local Government Association said that the Government should “urgently bring forward its commitment”,¹⁷² while the Northern Housing Consortium said expenditure of the promised £3.8bn should be brought forwards so that councils and housing associations can retrofit homes at scale and speed.¹⁷³

81. In September 2020, a £50m fund for demonstrator projects under the SHDF was announced.¹⁷⁴ Jenny Holland from the UK Green Building Council said this was “putting the cart before the horse” because the Government was requiring projects to achieve cost reductions of between five and 30 per cent in the demonstrator phase, when in practice the required efficiencies would be realised through delivery at scale.¹⁷⁵ George Munson from Leeds City Council said that the authority had bid to the pilot stage of the SHDF:

What I was impressed with was the fact that there is quite a high ceiling on the level of investment into a property. It is up to around £30,000 per home. That allows you to do everything that you need to do to make that home essentially 2050 ready, zero-carbon ready. It is an excellent approach and a step-change to what we have seen in the past.¹⁷⁶

82. Pedro Guertler, from E3G, told us that deep retrofits ought to be undertaken wherever possible.¹⁷⁷ Whole house retrofits integrate fabric improvement measures, low carbon heating, on-site renewable generation and smart energy management in one-step upgrades.¹⁷⁸ We believe deep retrofits are suitable only when properties become vacant. The SHDF approach makes good use of investment by transforming some of the worst-performing properties up to EPC band A or B without having to revisit and redo the work.¹⁷⁹

168 National Infrastructure Commission, 2018. [National Infrastructure Assessment](#)

169 Conservative and Unionist [Manifesto 2019](#); Energy and Climate Intelligence Unit ([EEH0002](#))

170 [CP 330 - Spending Review 2020 – November 2020](#), p41

171 Committee on Fuel Poverty ([EEH0037](#))

172 Local Government Association ([EEH0012](#)); see also National Housing Federation ([EEH0022](#))

173 Northern Housing Consortium ([EEH0080](#)); Northern Housing Consortium([COV0025](#))

174 [Social Housing Decarbonisation Fund Demonstrator](#)

175 [Q55](#)

176 [Q167](#)

177 [Q45](#)

178 Green Alliance ([PFI0089](#))

179 [Q166](#) [George Munson]

83. Housing associations are able to apply for the demonstrator programme, but local authorities are required to lead any bid.¹⁸⁰ Stonewater, a social housing provider, said that it understood that less than half of the funding available in the SHDF demonstrator was applied for by the sector. It considered that this was because many local authorities did not have their own stock or did not have the resources to lead bids.¹⁸¹

84. When asked whether the social housing targets were achievable, Kwasi Kwarteng told us:

... in the 2019 Conservative party manifesto, we committed something like £3.8 billion [...] to social housing and to exactly this point of driving up energy efficiency. It is important to stress that that was over 10 years. Of the three measures that we committed a huge amount of money to over that period, which were social housing, public buildings and the home upgrades grant, the social housing element was the largest financial commitment. We feel that we can actually achieve what we set out to in that area. It is a crucially important area.¹⁸²

85. We welcome the Social Housing Decarbonisation fund and support its aims to retrofit social housing at scale. However, to date only a fraction of the funding has been made available for demonstrator projects that may well not deliver the efficiencies that larger schemes could achieve.

86. The Government should bring forward the allocation of the £3.8bn of funding pledged before the 2019 general election. This would deliver cost savings at scale. This funding should be frontloaded to reap the benefits of cumulative emissions savings towards net zero. The Government should also allow housing associations to lead bids, so as to ensure that the available funding is used quickly and effectively.

Extending the Warm Home Discount

87. The Warm Home Discount is a one-off £140 payment applied to eligible customers' electricity bills between October and April. It has been designed to help reduce costs for those living on a low income or a state pension over the winter months.¹⁸³ It currently costs £350 million per year, and supporting two and a half million low-income and vulnerable households. The Energy White Paper proposes that it be extended to 2025/26 and expanded to £475 million, reaching three million households.¹⁸⁴

88. While the money will benefit low income households, the expansion proposed in the White Paper appears to provide no signal or incentive to homeowners in receipt of the discount to spend the money to improve the energy efficiency of their home. Improvements in a property's energy efficiency reduce its energy consumption, and therefore the household's domestic bills, in perpetuity. Evidence to our inquiry from BEIS agreed with this:

180 Stonewater ([EEH0118](#))

181 Stonewater, representation to the Budget 2021

182 [Q277](#)

183 HM Govt. 2020. [Warm homes discount](#)

184 BEIS. 2020. [Energy White Paper: Powering our net zero future](#)

Energy efficiency is the most sustainable long-term solution to fuel poverty and we are committed to reaching our statutory fuel poverty target of improving as many fuel poor homes as reasonably practicable to EPC Band C by the end of 2030, as well as our interim targets of Band E by 2020 and Band D by 2025.¹⁸⁵

89. The proposed extension to the Warm Home Discount provides no apparent incentive to poor or vulnerable customers to invest in improving the energy efficiency of their homes. Energy efficiency is the most sustainable long-term solution to fuel poverty. The money earmarked for additional years of the scheme could be better applied to support energy efficiency objectives more directly, through Home Upgrade Grants or the Energy Company Obligation, to improve energy efficiency and to lower energy bills in perpetuity for those struggling to pay.

4 Stimulating further progress in energy efficiency

Skills and training

Job creation

90. BEIS told us that the installation of energy efficiency measures was labour-intensive, and would therefore have a high multiplier effect in creating new direct jobs and supporting others across the wider supply chain.¹⁸⁶ The Department recognised that energy efficiency measures were often delivered by local small and medium enterprises (SMEs) and there was potential to target policies to create jobs in deprived areas, including those most impacted by covid-19, thereby supporting the Government’s ‘levelling-up’ agenda.¹⁸⁷ Pedro Guertler from E3G also explained the local benefits from investment in energy efficiency measures:

There is no investment like energy efficiency that is as good at generating jobs. It is unique... It is unique in saving people’s energy costs; it transforms what they spend. They tend to spend it locally. Those energy cost savings persist, so if we got to EPC C by 2030, the result is a permanent net increase of 100,000 jobs in local retail and services primarily net. There are very minor losses in energy supply, as you might expect, but that is the end result and a better fiscal position, because GDP is permanently increased as a result.¹⁸⁸

91. The Energy Efficiency Infrastructure Group (EEIG) found that investing in energy efficiency alone could create 34,000 full-time jobs within the next two years.¹⁸⁹ In the longer term, it estimated that energy efficiency investment could support over 150,000 skilled and semi-skilled jobs to 2030.¹⁹⁰ Sarah Kostense-Winterton, chair of EEIG, told us that energy efficiency jobs could help 16 to 24 year olds who had been hit hard by the pandemic: “This is an area that retrains them, upskills them and puts them into jobs. That is obviously very relevant for now”.¹⁹¹ The Construction Industry Training Board has estimated that the programme to retrofit buildings would require over 200,000 extra full-time workers from 2030 through to 2050.¹⁹² Modelling by the New Economics Foundation found that, with the right fiscal stimulus,¹⁹³ 117,811 new direct jobs could be created in year one, rising to a peak of 382,885, in year four. This estimate rose to an average of 515,157 when factoring in indirect jobs.¹⁹⁴

186 Department for Business, Energy and Industrial Strategy ([EEH0024](#))

187 Department for Business, Energy and Industrial Strategy ([EEH0024](#))

188 [Q75](#)

189 Institute for Public Policy Research ([EEH0099](#))

190 Energy Efficiency Infrastructure Group. 2020. [Energy efficiency’s offer for a net zero compatible stimulus and recovery](#)

191 [Q76](#)

192 Construction Industry Training Board. 2020. Building Skills for Net Zero (draft report) cited in CCC. 2020. Sixth carbon budget

193 Around £85bn program of capital investment in home retrofit over the next four years to provide whole-house retrofit measures, fiscal incentives including a stamp duty rebate and VAT reductions on retrofit

194 New Economics Foundation. 2020. [A Green stimulus for housing](#)

92. The present shortage of workers in the energy efficiency sector appears chronic, given the overall timetable for decarbonisation of properties.¹⁹⁵ The Energy Efficiency Association told us:

There are not enough installers, for example, in the whole of the UK to be able to deliver the Net Zero targets for one very large Local Authority, let alone the whole country.¹⁹⁶

93. The UK Green Building Council said that the supply chain had been “bruised” as a result of the Government’s “stop-start” policies and funding streams, and in order to ramp up to the required levels of activity there would need to be real confidence in the longevity of Government ambitions.¹⁹⁷ The Green Homes Grant, which we have discussed above, was expected to support the creation of 100,000 jobs across the UK.¹⁹⁸ We heard that, without a longer term scheme in place, businesses were not prepared to invest in the training of staff, since it was such a short term scheme.¹⁹⁹ Brian Berry said that there was an opportunity for many trades to upskill, if they knew that the demand was there.²⁰⁰ Michael Lewis, CEO of E.ON said

This is a marathon. It is 30 years. We do not have to do it all in two years, but we have to get moving in the first two years and we have to identify where the gaps are and quickly train people up to deliver that.²⁰¹

Training

94. The Energy Efficiency Association said that it could take up to four years for an installer of some energy efficiency measures to become fully qualified,²⁰² and argued that training by qualified experts needed to be put in place to meet a standard which would be recognised and respected by the industry.²⁰³ The Green Finance Institute’s Coalition for the Energy Efficiency of Buildings said that government investment in training programmes was needed:

A government-funded training programme, available to those looking to upskill or requalify from sectors impacted by covid-19, delivers the skills and capacity required to address the UK’s retrofit challenge. A subsidised training programme could rapidly scale a high-quality supply chain and engage furloughed workers.²⁰⁴

This was reiterated by the Chartered Institute of Housing, which said:

A government-funded training programme could rapidly upskill furloughed workers or those looking to requalify from sectors impacted by the crisis.²⁰⁵

195 Energy Efficiency Association ([GRJ0006](#)); UKGBC ([EEH0091](#))

196 Energy Efficiency Association ([GRJ0006](#))

197 UKGBC ([EEH0091](#))

198 Press release: [Green Homes, jobs and cheaper bills on the way](#), 30 September

199 [Qq184–185](#) [George Munson] [Russell Smith]; [Q277](#); [Q227](#); [Q231](#)

200 [Q223](#)

201 [Q56](#)

202 Energy Efficiency Association ([GRJ0006](#))

203 Energy Efficiency Association ([GRJ0006](#))

204 Coalition for the Energy Efficiency of Buildings , E3G ([EEH0017](#))

205 Chartered Institute of Housing ([EEH0021](#))

95. In September 2020, the Government launched the Green Homes Grant skills training competition and in November, a new Green Jobs Taskforce to support the creation of two million skilled jobs to reach net zero (see box 3).

Box 3: Government skills development initiatives

The Green Homes Grant skills training competition

The Green Homes Grant skills training competition is designed to provide support to the energy efficiency and low carbon heating supply chains to deliver works under the Green Homes Grant scheme, and to scale up to meet the additional consumer demand generated. The competition will make available £6.9 million funding for programmes to deliver a suite of training solutions to support the Green Homes Grant scheme. A maximum of £1 million will be available for each competition project.

The Green Jobs Taskforce

The Green Jobs Taskforce was launched to support the creation of two million skilled jobs to build back greener and reach net zero emissions by 2050. It includes making sure the country has the immediate skills needed for 'building back greener', such as home retrofitting, and supporting workers in high carbon transitioning sectors like oil and gas to retrain in low-carbon technologies. The Taskforce will represent the views of businesses, employees and the skills sectors and includes representatives from the Construction Industry Training Board, Engineering Construction Industry Training Board, East London Institute for Technology, RetrofitWorks, Edinburgh University and National Grid. The taskforce will create an action plan to inform on what support is needed for people in transitioning industries.

Source: [Green Homes Grant skills training competition](#), BEIS and DFE. 2020. Press release: [UK government launches taskforce to support drive for 2 million green jobs by 2030](#)

96. The Green Homes Grant Skills Training competition has now closed. 18 successful applicants have been awarded a total sum of £6.4 million.²⁰⁶ The Energy Efficiency Association said that certification bodies and technical monitors needed to be more highly skilled and said, “hopefully the results of the Green Homes Grant Skills Training Competition will go some way to addressing some of these issues, but much more will need to be done in this area”.²⁰⁷ We will be looking further at this issue in our Green Jobs inquiry.

Upskilling the existing industry

97. Brian Berry, from the Federation of Master Builders, emphasised that every tradesperson needed to be upskilled in retrofit techniques in order to secure overall competency in the supply chain.²⁰⁸ He told us:

We need to upskill people in the building industry because there is a need to understand how their skills interrelate to one another. You cannot just pick out one bit of this. It has to be seen holistically, which is why I think there needs to be a national retrofit strategy, a clear political direction and a commitment to reducing carbon emissions in our homes. 85 per cent of

206 [Green Homes Grant skills training competition: details of successful applicants](#), 21 December 2020

207 Energy Efficiency Association ([GRJ0006](#))

208 Federation of Master Builders ([EEH0046](#)); [Q223](#)

our existing homes will still be here in 2050. We will not deliver that target unless we retrofit our existing homes. To do that, it is a major challenge. That is why need a national retrofit plan.²⁰⁹

98. The Government's target is to install 600,000 heat pumps every year by 2028.²¹⁰ The Microgeneration Certification Scheme (MCS), a quality assurance scheme supported by BEIS, is a requirement for heat pump installations made under the Domestic Renewable Heat Incentive, the Green Homes Grant and the Clean Heat Grant. When we took evidence on the contribution that heat pump technologies could make to climate change mitigation, we heard that there had been a 65 per cent reduction in MCS accredited installers between 2014 and 2017.²¹¹ There are currently around 930 air-source heat pump installation companies accredited by the MCS, and of these around 600 also install ground-source heat pumps.²¹² The Federation of Master Builders said that the Government should leverage the Construction Industry Training Board (CITB) or the National Skills fund to ensure the development of identifiable skills such as Heat Pump Installer or Retrofit Coordinator.²¹³

99. When asked if the construction industry could cope with the demand to upgrade the energy efficiency of existing homes, Kwasi Kwarteng responded:

One of the things that we have done this year is launch the green jobs taskforce, which is a joint initiative between BEIS and the Department for Education. We are coming together to try to address that very issue, about the skills and the capacity to deliver on these ambitious targets.²¹⁴

Kemi Badenoch told us why the Government was focussing on grants for its economic recovery:

We want to stimulate an economic recovery. On the jobs point as well, this is an area where we can upskill fairly quickly and create jobs, so that is the priority.²¹⁵

100. Stop-start Government policies and intermittent funding streams have resulted in a dearth of installers of energy efficiency measures. A lack of accredited tradespeople has hampered the initial delivery of the Green Homes Grant, and there is a significant risk that the Government will not meet its heat pump installation targets due to a lack of qualified tradespeople.

101. Whilst we welcome the launch of the Green Jobs Taskforce and the Green Homes Grant Skills Training Competition, the Government must create a visible, long-term market that makes energy efficiency and heat pump installation a stable and desirable profession. The Department for Business, Energy and Industrial Strategy, working with the Department for Education, should commit to the funding of a dedicated training

209 [Q223](#)

210 HM Govt. 2020. [The ten point plan for a green industrial revolution](#).

211 Heat Pump Association (HPA) ([PMP0011](#))

212 [Chair to BEIS regarding heat pumps, 21 December](#); [BEIS to Chair regarding heat pump installations, 29 January 2021](#)

213 Federation of Master Builders ([EEH0046](#)); The CITB is the industry training board for the construction sector in England, Scotland and Wales. It is an executive non-departmental public body sponsored by the Department for Education.

214 [Q264](#)

215 [Q284](#)

programme to support a long-term strategy for education and training in green jobs. Training is also required to develop the networks of advisers and coordinators which will underpin the successful growth of employment opportunities in the sector.

102. *We recommend that as part of the forthcoming Heat and Buildings strategy a national retrofit strategy is developed with colleges and other education providers to provide the training and re-training needed to prepare our homes for a low-carbon future. The strategy must address the much-needed increase in certified heat pump installers to meet expected demand including through recruitment incentives, with support for apprenticeships and reskilling.*

Minimum Energy Efficiency Standards

103. The private rented sector is the only tenure with Minimum Energy Efficiency Standards (MEES) in England and Wales. Since April 2020, landlords can no longer let or continue to let properties covered by the MEES Regulations if those properties have an EPC rating below E, unless they have a valid exemption in place.²¹⁶ The Government is consulting on upgrading the MEES regulations: its preferred option is to require landlords to ensure that domestic properties for rental meet EPC C standards, at a minimum, for new tenancies from 1 April 2025 and for all tenancies by 1 April 2028.²¹⁷ This will require 3.2 million properties to be upgraded in the next seven years in a sub-sector where there is little financial support. The Scottish Government has consulted on proposals to mandate a minimum of EPC band C on all domestic properties offered for sale or which undergo major renovation by 2024.²¹⁸

104. Jenny Hill, head of buildings at the Climate Change Committee, said that there had to be a combination of standards and targeted incentives. She welcomed the Scottish Government’s proposal and said the UK Government should be “very much looking at following the Scottish example at some point in the next decade”.²¹⁹ She also welcomed the proposed upgrade to the energy performance requirements on private rented sector, and said; “we think that proposal is absolutely the right ambition and that it should be replicated for social housing”.²²⁰

105. The Energy Efficiency Infrastructure Group (EEIG) said that new minimum energy efficiency standards for owner-occupied homes, applicable at the point of sale and at major renovations—modelled on Scotland’s proposals—would provide the clearest signal to homeowners that they needed to upgrade their homes.²²¹ Policy Connect supported tighter targets in higher priority housing such as new houses, social housing and private rented homes. It said that setting milestones was important to raise public awareness of the importance of decarbonising heat, following the example of the policy signal communicated by the forthcoming ban on the sale of conventional petrol and diesel vehicles from 2030.²²² Staggered targets also enabled building owners to plan investment

216 BEIS. 2020. [Domestic private rented property: minimum energy efficiency standard - Guidance](#)

217 BEIS. 2020. [Improving the energy performance of privately rented homes](#)

218 Scottish Government. 2019. [Improving energy efficiency in owner occupied homes: consultation](#); [Q40](#); Scotland has a net zero target of 2045, five years earlier than the UK target

219 [Q33](#)

220 [Q10](#); see also Mineral Wool Insulation Manufacturers Association (MIMA) ([EEH0032](#))

221 EEIG, 2020. [Turning Stimulus into recovery](#), From the Green Homes Grant towards a resilient net zero economy, p30; Coalition for the Energy Efficiency of Buildings , E3G ([EEH0017](#))

222 Policy Connect ([EEH0011](#))

in energy performance and to undertake it when most cost-effective without fear that they might need to make future investments to meet tighter regulation.²²³ The National Housing Federation said that statutory legislated standards would ensure that targets were prioritised and would create market certainty, support the reflection of improved home energy efficiency in market values and, if applied with care, ensure that resident bills remained affordable.²²⁴

106. Dr Rhian Mari-Thomas, from the Green Finance Institute, cautioned that in proposing minimum standards consideration needed to be given to “the risk of creating a two-tier mortgage market where the low EPC households will be unable to sell or re-mortgage their property”.²²⁵ This is also the case for landlords. The GFI’s Coalition for the Energy Efficiency of Buildings said that a full assessment on the risk of creating a two-tier mortgage market must inform any decision taken by the Government.²²⁶ There is a risk that this could cause blight on those properties that cannot achieve minimum standards and this is where Government support measures should be targeted.

107. In its Sixth Carbon Budget advice, the CCC has recommended that by 2028 all homes for sale should be at EPC C or higher. It said that at the current rate of housing turnover, of once every ten years for mortgagors and once every 24 years for outright owners, regulations applied at the point of sale would be expected to result in a further 15 per cent of owner occupied homes meeting the required standard by 2035 (with further upgrades driven by standards on lenders, totalling at least 60 per cent of owner-occupiers overall).²²⁷

108. The Government’s National Infrastructure Strategy, published in November 2020, stated that the Government would be “raising minimum standards for both new and existing buildings, and energy related products; and introducing minimum energy performance standards for domestic and non-domestic private rented properties”.²²⁸ Further details on the content of the standards and the timetable for their introduction are yet to be provided. The Strategy stated that:

More detail on how the government plans to use a combination of regulation and targeted spending to stimulate the energy efficiency market over the next decade, and encourage greater use of clean heat, will be set out in the forthcoming Energy White Paper, Hydrogen Strategy, and Heat and Building Strategy.²²⁹

The Heat and Buildings strategy was expected to be published in 2020 and is now expected in spring 2021.

223 Rockwool Ltd ([EEH0023](#))

224 National Housing Federation ([EEH0022](#)); see also Rockwool Ltd ([EEH0023](#))

225 [Q89](#)

226 Coalition for the Energy Efficiency of Buildings , E3G ([EEH0017](#))

227 Climate Change Committee. 2020. [The Sixth Carbon Budget: The UK’s path to net zero](#). p112; Standards on lenders are discussed in the green finance section

228 HM Treasury. 2020. [National Infrastructure Strategy](#)

229 HM Treasury. 2020. [National Infrastructure Strategy](#)

109. We asked Kwasi Kwarteng whether there should be parity between minimum energy standards in the social housing sector and in the private rented sector. He answered:

Obviously, there has to be. We split up these sectors because different policies can apply and different levers are more appropriate depending on which sector we are looking at, but the overall objective is the same: we want to have net zero by 2050 and we want to drive up the energy efficiency of homes as quickly and as practicably as we can. The aim of the game, as it were, is to drive up standards across the housing sector, whether social housing, private rented accommodation or owner-occupier.²³⁰

110. We support the introduction of minimum energy performance standards across all tenures. Without these minimum standards, it is unlikely the Government’s overall ambitions on retrofitting energy efficiency will be achieved.

111. We recommend that the social rented sector should be subject to the same standards as the private rented sector.

112. In its forthcoming Heat and Buildings Strategy, the Government, acting on the advice of the Climate Change Committee, should set an ambitious and realistic trajectory for owner occupiers to achieve minimum EPC C standards. The CCC recommends that by 2028 all properties achieve EPC level C at the point of sale. This is a hugely ambitious target and the Government must set out how it plans to raise public engagement and revise its delivery mechanisms to achieve this target and specify where exemptions may be necessary. These measures may include cost caps to be applied to such work and exemptions from the requirement to meet these standards: for instance, on the grounds of affordability or for properties recognised as hard to treat. It should also ascertain the risks of creating a two-tier mortgage market and long-term blight for owner occupiers and the private rented sector of hard-to adapt properties and identify and implement measures to avoid this impact.

Green finance

113. The private sector will have a critical role to play in deploying the additional capital required to meet the current shortfall of demand in the owner-occupied sector.²³¹ In March 2018, the Green Finance Taskforce published a Government-commissioned report, ‘Accelerating Green Finance’, which contained several recommendations to incentivise the supply and demand for energy efficiency financing for the ‘able to pay’ sector.²³² The recommendations urged the Government to:

- a) undertake a pilot to link stamp duty land tax to energy efficiency; and
- b) provide incentives to “pump prime” the green mortgage and consumer loan markets.

230 [Q276](#)

231 See earlier discussion of costs in Chapter 2

232 The Green Finance Taskforce independent taskforce chaired by Sir Roger Gifford; Green Finance Taskforce. 2018. [Accelerating Green Finance](#)

114. As part of its 2019 Green Finance Strategy,²³³ the Government launched a £5 million Green Home Finance Innovation Fund to pilot green home finance products to incentivise energy efficiency retrofit, such as green mortgages, over an initial 18 month period. The outcomes of the Green Home Finance Innovation Fund are to be used to inform the development of future policy to build a market for green home finance.²³⁴ Only £1.8bn of funding was awarded, and the three successful bids were all related to green mortgages and no other green finance measures.²³⁵

115. The Green Finance Institute convened a Coalition for the Energy Efficiency of Buildings (CEEb) for the purpose of developing the market for financing net-zero carbon and climate-resilient buildings. In May 2020, the CEEb published an interim report listing an initial portfolio of 21 financial solutions that were considered commercial and scalable and which could mobilise both public and private capital flows towards the retrofit of UK homes to improve energy performance standards.²³⁶ These measures included:

- a salary sacrifice scheme for domestic energy efficiency upgrades
- Property Assessed Clean Energy (PACE) financing
- a green help-to-buy scheme
- large-scale retrofit programmes for social housing and void buildings, and
- a sliding scale of stamp duty based on energy efficiency.

Work on designing and delivering the demonstrator projects is underway to unlock funding and catalyse further private sector investment.²³⁷

Green mortgages

116. Around 47 per cent of owner-occupied homes are currently covered by a mortgage and the market is estimated to be worth around £275bn per year.²³⁸ ‘Green mortgages’ could provide access to better mortgage terms—lower interest rates or extra borrowing capacity—to those who purchase energy efficient homes or who commit to upgrading the properties’ energy performance. In the Netherlands, mortgage lending rules allow households to borrow up to €25,000 extra to purchase or refurbish to a net zero energy home.²³⁹ The Federation of Master Builders supported the proposal to bring forward green mortgages to incentivise retrofit works at the point of sale. Given the comprehensive nature of energy efficiency works, they are said to be most appropriate to be carried out when a property is vacant and changing hands.²⁴⁰

233 HM Treasury, BEIS. 2019. [Green Finance Strategy](#)

234 BEIS. 2019. Energy efficiency: building towards net zero: [Government Response to the Committee’s Twenty-First Report of Session 2017–19](#). 30 October 2019.

235 BEIS. 2020. [Green Home Finance Innovation Fund competition - successful bids](#)

236 Green Finance Institute. 2020. [Financing energy efficient buildings: the path to retrofit at scale](#), May 2020

237 [The Green Finance Institute and members of the Coalition for the Energy Efficiency of Buildings \(CEEb\) highlight further pathways to UK Government’s energy efficiency goals](#), July 2020

238 MHCLG. 2019. [English Housing Survey: Home Ownership, 2017–18; Q46](#)

239 E3G, 2018. [Silver Buckshots? Opportunities for closing the gap between ambition for, and policy and investment to drive, UK residential energy efficiency renovation](#)

240 Federation of Master Builders ([EEH0046](#)); [Q46](#)

117. In 2020, NatWest launched a green mortgage offering a discounted interest rate to customers purchasing a property with an EPC of A or B, to achieve its ambition to have 50 per cent of its mortgage book with an EPC or equivalent rating of Band C or above by 2030.²⁴¹ Clare Tracey, chief strategy and sustainability officer from Nationwide, told us that it had made £1 billion of additional lending available through its Green Additional Borrowing mortgage. This facility gives a lower initial interest rate on borrowing from £5,000 to £25,000, provided at least 50 per cent of the new advance is spent on energy efficiency home improvements.²⁴² She added that take up of the product had not yet met expectations: because of other barriers, including the cost of retrofitting relative to the financial payback, at present the level of funding was not matched by the demand.²⁴³

118. In the Prime Minister's Ten Point Plan for a Green Industrial Revolution, the Government has undertaken to "kickstart" the green home finance market by consulting on introducing mandatory disclosure requirements for lenders on the energy performance of homes on which they lend and setting voluntary improvement targets.²⁴⁴ BEIS subsequently launched a consultation on how mortgage lenders could help householders to improve the energy performance of their homes: this closed in February 2021.²⁴⁵

119. The Climate Change Committee's Sixth Carbon Budget advice recommended that standards for lenders targeting EPC C across the housing portfolio should be introduced between 2025 and 2033. This would mean that homes with mortgages ought to achieve EPC C by 2033, such that all practicable lofts and cavities are insulated alongside other low-regret measures such as draught proofing, with solid wall insulation deployed where this supports low-carbon heat and wider benefits. It is estimated that these measures would apply to just under half of all existing owner-occupied homes.²⁴⁶

Stamp duty rebate

120. Dr Rhian Mari-Thomas, of the Green Finance Institute, said that the Government should consider a stamp duty rebate as an action to stimulate more private capital. Owner-occupiers of properties improved to a higher EPC within 12 to 24 months of purchase would be eligible for such a rebate. She said we needed to "normalise the concept of energy efficiency improvements as part of the property sale and purchase process".²⁴⁷ Energy UK recommended that, following the end of the present stamp duty holiday, the Government consider a variation in levels of stamp duty to be paid by buyers so as to reflect the energy efficiency rating of a property.²⁴⁸ The Green Finance Taskforce recommended a sliding scale of stamp duty, designed to be fiscally neutral and linked to energy performance, which could drive demand for more energy efficient properties. This could be preceded by near term action, in the form of a stamp duty rebate for the purchase of highly efficient properties.²⁴⁹

241 [NatWest launches Green Mortgages \(natwestgroup.com\)](https://www.natwestgroup.com), November 2020

242 Nationwide Building Society (EEH0031)

243 Q81; Nationwide Building Society (EEH0031)

244 HM Govt. 2020. [The ten point plan for a green industrial revolution](#)

245 BEIS. 2021. [Improving home energy performance through lenders consultation](#)

246 Climate Change Committee. 2020. [The Sixth Carbon Budget: The UK's path to net zero](#). p112

247 Q117

248 Energy UK, Letter to Rt Hon Rishi Sunak on March Budget 2021, February 2021

249 Green Finance Taskforce. 2018. [Accelerating Green Finance](#)

Low interest loans

121. Jenny Holland, from the UK Green Building Council, said that the overall barriers to householders wishing to improve the energy efficiency of their homes were high up-front costs with long payback periods on investment and no guarantee that that investment would reap a reward in the form of a higher property value.²⁵⁰ She said one of the solutions was a PACE-style lending product:

PACE in the US is a retail lending product that supports 100 per cent of the up front costs with the liability secured against the property and repaid through an additional property tax. I know this sounds very similar to the late Green Deal, but the US has got it right with PACE loan books able to be aggregated and securitised in order to access wholesale, lower cost capital.²⁵¹

Box 4: Property Assessed Clean Energy (PACE) loans

A PACE loan is a type of financing that is available for energy-efficient upgrades or the installation of renewable energy sources for commercial, industrial, and private residential properties. The property serves as collateral and the debt is tied directly to the property, rather than its owner. Any remaining balance on a PACE loan remains intact when ownership of the property changes hands. Unlike a traditional mortgage loan, PACE financing doesn't require an upfront down payment. PACE loans are repaid through property assessments, as an addition to the owner's regular property taxes. These assessments are typically spread out over a specific time frame, which may range from five to 25 years, based on the amount of financing involved.

Source: [Property Assessed Clean Energy \(PACE\) Loan](#) [accessed 28/10/20]

122. Michael Lewis from E.ON described his experience in Germany with the state-owned development bank KfW, which he said was a model “we can certainly learn from” (box 5). With his KfW loan, taken out in addition to his mortgage with the same provider at 250 basis points lower than a commercial lending rate, he had been able to add solid-wall insulation, upgrade to thermally insulated windows and install loft insulation in his home. This had generated significant savings in energy consumption.

Box 5: The German model of state funded low interest loans

In Germany, the state-owned development bank, KfW, offers low-interest loans of up to €120,000 to fund installation of energy efficiency measures into homes as part of their Energy Efficient Renovation scheme. The scheme incentivises uptake by offering a subsidy of up to 40 per cent of the loan value. This is dependent on the retrofitted property meeting specific energy performance measures and a higher subsidy is received for a higher standard of performance. For every €1 invested by KfW to incentivise energy efficient renovation, building owners were motivated to borrow and spend €6. The programme cost the federal government €1.7 billion in 2016, unlocking €8.4 billion from building owners and nearly covering its own cost through the resultant VAT revenue alone (€1.6 billion). Between 2005 and 2017, this scheme has led to installations in 2.8m properties, invested €73bn, and delivered 7.5 MtCO₂ savings.

Source: E.ON UK ([EEH0069](#)); Department for Business, Energy and Industrial Strategy ([EEH0024](#))

250 [Q47](#)

251 [Q47](#)

123. When asked whether the Government was working with the financial sector to develop and encourage low-interest loans, Kemi Badenoch responded:

We have a different approach. Loans are treated like capital spend. Therefore, from our perspective if it is Government giving out the loans, it competes with other Government spending priorities. In terms of what we are doing with the financial sector, what we really want to do is stimulate private investment more broadly. That is where the national infrastructure bank comes in. [...] We are looking at the macro level, and infrastructure projects. We will be announcing more in terms of the infrastructure bank.

Value Added Tax

124. New build construction is zero-rated for VAT purposes (or it can be reclaimed). However, work to existing buildings is generally standard-rated at the full rate of 20 per cent.²⁵² Several witnesses supported changing VAT to encourage energy efficiency—and of those that mentioned changes to VAT—most supported a cut to five per cent for refurbishment and renovation.²⁵³ Ralph Carpenter, a low and zero carbon architect, told us:

The VAT regime is the single largest obstacle to homeowners doing this work, despite there being a growing appetite for home energy improvements.²⁵⁴

125. Cutting VAT to five per cent on the labour element of repair and renovation in the domestic building sector would stimulate investment in energy efficiency upgrades of private domestic dwellings. Research by Experian found that in the first year of cutting VAT, a potential saving could be generated of up to 36,358 tonnes of CO₂ by the retrofitting of 14,000 homes.²⁵⁵ Projected over five years, this could lead to an additional £1.08bn spent on energy efficiency measures.²⁵⁶ Brian Berry from the Federation of Master Builders told us:

I think Brexit gives us the opportunity, or the UK Government the opportunity, to reduce the rate of VAT on green homes and it would be a fantastic stimulus for retrofitting our homes.²⁵⁷

Research by the University of East Anglia found that nine in ten homeowners completed energy efficiency works as part of a wider suite of home improvements. Therefore, stimulating the repair and renovation sector could bring about consequential improvements in the energy efficiency of homes.²⁵⁸

252 The Architects' Journal ([EEH0072](#))

253 Ralph Carpenter ([EEH0003](#)); Hope Valley Climate Action ([EEH0015](#)); Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#)); CLA ([EEH0020](#)); Chartered Institute of Housing ([EEH0021](#)); Royal Institution of Chartered Surveyors ([EEH0030](#)); Federation of Master Builders ([EEH0046](#)); National Trust ([EEH0052](#)); Historic England ([EEH0065](#)); The Architects' Journal ([EEH0072](#)); National Residential Landlords Association ([EEH0084](#)); London Environment Group ([EEH0089](#)); Green Alliance ([EEH0093](#)); Cutting VAT was also recommended by the Building Better, Building Beautiful report '[Living with Beauty](#)'

254 Ralph Carpenter ([EEH0003](#));

255 Experian. 2015. [An estimate of the effects of a reduction in the rate of VAT on housing renovation and repair work: 2015 to 2020.](#)

256 Federation of Master Builders ([EEH0046](#))

257 [Q256](#)

258 Federation of Master Builders ([EEH0046](#))

126. The Green Finance Institute said that, at a minimum, the Government should reintroduce the reduced rate of VAT payable on energy saving materials at the previous level of five per cent, rather than the standard rate of 20 per cent. For higher impact and wider construction sector stimulus, it should introduce zero per cent VAT on all renovation activity, conditional on the inclusion of energy efficiency measures.²⁵⁹ Energy UK also suggested this reinstatement, and proposed that the definition to be expanded to include storage, air-source heat pumps and electric vehicle charging equipment for public and private use.²⁶⁰

127. The National Residential Landlords association told us of an anomaly in the tax regime: where a landlord wants to carry out work to undertake repairs, such repairs are tax deductible, but energy efficiency improvements are not. As an example, whilst replacing a broken boiler was considered a tax deductible expense, if a landlord wanted to replace a functioning but inefficient boiler with a more energy efficient one it would not be.²⁶¹

128. Given the widespread support for a reduction in VAT, we asked Kemi Badenoch whether the Treasury would consider a reduction in the rate of VAT on energy efficient measures to five per cent. She responded:

It is not about whether it is a good idea or not but about what it will cost. We look at tax changes at Budget, and it has to be looked at completely in the round. The cost of reducing VAT on, say, property renovation is about £4 billion a year. That is quite a lot of money. We need to look at that in the context of the VAT relief on loads of different things requested by the Treasury. If we are going to forgo £4 billion, what will be the impact of that on other parts of the economy? What will we not be spending that money on? ... It has to be done at a fiscal event, where we understand how we are going to fund it.²⁶²

129. Green finance options are essential to encourage owner occupiers to take action on energy efficiency. We welcome the ambition of some leading lenders to make green mortgages available, and the Government consultation on how mortgage lenders can help householders to improve the energy performance of their homes.

130. Alongside an extension of the Green Homes Grant, other financial incentives, such as low interest loans, will need to be made available to owner occupiers and landlords to achieve the thorough retrofit of domestic housing stock the Government envisages. The Green Finance Institute has identified 21 possible products. It is therefore disappointing that the Green Home Finance Innovation Fund only looked at green mortgages and did not pilot stamp duty rebates and low interest loans which have shown considerable success in other parts of the world. We look forward to hearing more details from the Government on how the proposed National Infrastructure Bank will be used to finance domestic energy efficiency.

259 Coalition for the Energy Efficiency of Buildings , E3G ([EEH0017](#))

260 Energy UK, Letter to Rt Hon Rishi Sunak on March Budget 2021, February 2021

261 National Residential Landlords Association ([EEH0084](#))

262 [Q290](#)

131. Despite the need to make progress in improving energy efficiency of 19 million homes to achieve net zero Britain objectives, no mention was made in the Budget statement on 3rd March by the Chancellor of energy efficiency, nor any steps taken to improve delivery of the Green Homes Grant, his flagship measure announced by him in July 2020, which has so far signally failed to deliver its targets.²⁶³

132. *We recommend that the Chancellor of the Exchequer look again at proposals to reduce to five per cent the rate of VAT on the labour element of refurbishment and renovations. The Government should also bring forward proposals to reinstate the reduced rate of VAT payable on Energy Saving Materials at its former level of five per cent and to expand its scope to cover energy storage, heat pumps and electric vehicle charging.*

133. *We support and reiterate the Green Finance Taskforce recommendation that the Government should pilot a stamp duty rebate for homeowners that improve the efficiency of their homes within the first year of purchase. We recommend that the Government work with the financial sector and major landlords, including local authorities and other social landlords, to stimulate renovation through the introduction of green mortgages, green finance and low cost loans. These instruments would help to address the barriers to energy efficient renovation and retrofit in the form of high upfront costs of energy efficiency measures. The Government should consider how the national infrastructure bank could be used as a vehicle to finance energy efficiency given the scale of success achieved in Germany through its state funded low interest loan scheme.*

134. *The Government should work with the financial services sector to devise and implement a communications strategy to raise awareness about, and to encourage the uptake of, appropriate types of financing measures already on the market being offered, such as green mortgages.*

Reforming Energy Performance Certificates (EPCs)

135. Provision of an Energy Performance Certificate (EPC) is a statutory requirement whenever a property is bought, sold or rented. It represents a rating of how energy efficient a property is. EPCs were originally designed to provide a basic indicator of the energy cost of running a home (Box 6). They were introduced in 2007 and now underpin a range of Government policies and targets, including the legally binding fuel poverty targets, the ambition to have as many homes as possible to be grade C by 2035 and the Minimum Energy Efficiency Standard for privately rented homes.²⁶⁴

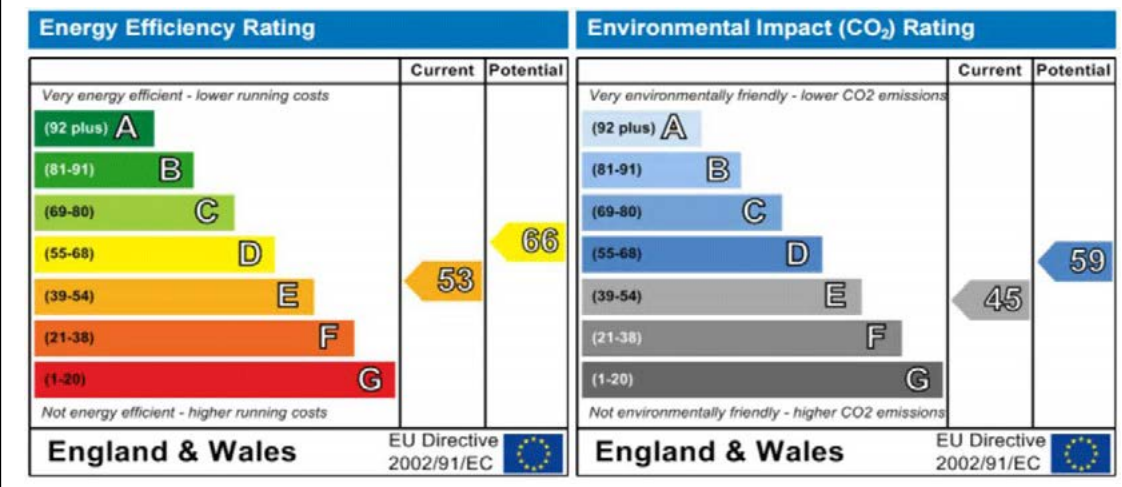
263 HM Treasury. 2021. [Budget 2021: documents](#)

264 UKGBC ([EEH0091](#))

Box 6: Energy Performance Certificates

Energy Performance Certificates are being used as a rating of how energy efficient a property is, although originally designed as a measure to estimate the relative cost of home heating in order to assess fuel poverty. The performance of the combined measurements is graded on a scale of A (most efficient) to G (least efficient). EPCs have two metrics, a fuel cost-based energy efficiency rating and a rating relating to CO₂ emissions. The Energy Efficiency Rating (EER) metric (which measures the cost of energy) is used as the headline rating (commonly referred to as the EPC rating).

The Government's Standard Assessment Procedure (SAP) is used to monitor the energy efficiency of homes. It is an index based on calculating annual space and water heating costs for a standard heating regime and is expressed on a scale of 1 (highly inefficient) to 100 (highly efficient with 100 representing zero energy costs). In 2018, the average SAP rating of English dwellings was 63 points, up from 62 points in 2017.



Source: Ministry of Housing and Local Government 2020. [English Housing Survey 2018–19](#), Headline Report

136. EPCs are increasingly influencing the retrofit of existing housing, a purpose for which they were not originally intended and for which they may be inadequate.²⁶⁵ They have several widely recognised shortcomings which were highlighted to us in written evidence:

- They are built on a theoretical desktop calculation and almost nothing is 'measured' on-site. An assessor may visit a home and check which materials are present in terms of wall or loft insulation, type of brickwork, but the performance of the materials present in resisting heat loss is not measured.²⁶⁶
- The headline EPC rating is based on the cost of the fuel used for heating, and therefore they are unreliable as a measure of energy efficiency.²⁶⁷ A property not connected to the gas grid is likely to automatically score a low EPC rating, owing to the higher cost of fuel to heat such properties.²⁶⁸
- A low carbon heat pump will not achieve a higher EPC than a gas-heated property, nor will the EPC methodology suggest the installation of a heat pump because

265 Northern Housing Consortium ([EEH0080](#))

266 Knauf Insulation ([EEH0076](#))

267 Scottish Power ([EEH0106](#)); Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#)) Department of Architecture and the Built Environment, Faculty of Environment and Technology, University of the West of England ([EEH0127](#))

268 CLA ([EEH0020](#))

of the higher cost of electricity over gas. The Standard Assessment Procedure (SAP) does not take into account the improved operational performance of heat pumps, nor the progress in decarbonisation of the electricity grid.²⁶⁹

- The SAP is based on standard assumptions about household occupancy. The assumptions made of older houses make them more likely to receive a notional rating less favourable than the performance attained in practice. This can lead to inappropriate and unnecessary retrofits of older properties.²⁷⁰
- Assessors only look at what is visible in a building: for example, they do not consider under-floor insulation if it cannot be directly inspected,²⁷¹ or tested by intrusive investigation which householders may dislike.
- The open source database does not link to Land Registry data, which is a significant issue for lenders seeking to assess the efficiency of properties on their mortgage portfolio.²⁷²
- Because the assessing of EPCs is so unreliable, two near-identical properties could receive different EPC ratings.²⁷³
- The various accreditation and certification bodies are all competing for customers, which does not necessarily encourage rigour in the auditing process.²⁷⁴
- The training for EPC assessors is minimal, with no requirement for specific training in the discipline of building physics.²⁷⁵
- There is currently no obligation to obtain an EPC for houses in multiple occupation, a category of property which is disproportionately occupied by vulnerable people.²⁷⁶

137. The UK Green Building Council said that, despite the known issues with EPCs, it did not advocate the use of alternative methodologies, since EPCs underpinned such a broad range of relevant Government policies and targets.²⁷⁷ E3G considered that, while there were problems with EPCs, they should be maintained in order to define targets for energy efficiency, Pedro Guertler explained:

I think the nub of EPCs is right in that they are well understood. They mirror the energy efficiency ratings that we see on home appliances and the like and they are very useful to be able to set targets. There are risks inherent, but think of them as something where you can change what is going on under the bonnet while retaining the wrapper as the benchmark for meeting a target consistently.²⁷⁸

269 Dr Jan Rosenow. [Energy performance certificates hold back decarbonisation](#), Oct 2019

270 Northern Housing Consortium ([EEH0080](#))

271 Chartered Institute of Housing ([EEH0021](#))

272 Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#))

273 National Energy Action ([EEH0085](#))

274 [Q38](#) [Jenny Holland]; National Energy Action ([EEH0085](#))

275 National Trust ([EEH0052](#))

276 National Energy Action ([EEH0085](#))

277 UKGBC ([EEH0091](#))

278 [Q38](#)

138. National Energy Action (NEA) said the benefits of EPCs were that they were easy to understand; they showed how much the average household would spend in a property for heating, lighting, and hot water, and they helped tenants, landlords or homeowners find out how they could save energy and money by installing improvement measures. NEA would be concerned about the possibility of a hiatus or a reversal of Government commitments that have subsequently adopted this framework,²⁷⁹ though they did recognise that EPCs should evolve and respond to some of the well-known issues within the current Standard Assessment Procedure.

139. The Climate Change Committee recommended in its 2018 and 2019 progress reports that EPCs needed to reflect real-world energy efficiency performance.²⁸⁰ In its 2019 report on housing, it stated that “EPCs are not currently a good reflection of the expected running costs of a home”.²⁸¹ It said that the SAP should be reviewed and revised and that only suitably qualified persons carry out energy modelling and assessment. In a letter to Rt Hon Robert Jenrick MP, Secretary of State for Housing, Communities and Local Government, the CCC called for a shift towards monitoring actual energy consumption,²⁸² and in its Sixth Carbon Budget advice it reiterated that EPCs needed to be reformed to ensure they drive the energy efficiency measures needed.²⁸³

279 National Energy Action ([EEH0085](#))

280 Climate Change Committee. Progress Report to Parliament [2018](#), [2019](#)

281 Climate Change Committee. 2019. [UK housing: Fit for the future?](#)

282 Climate Change Committee. [Letter: Future Homes Standard and proposals for tightening Part L in 2020](#), Feb 2020

283 Climate Change Committee. 2020. [The Sixth Carbon Budget: The UK's path to net zero.](#)

Box 7: EPC vs real world performance: the Knauf retrofit project

Knauf conducted two 'housing estate level' pilots for proof of concept of real performance measurement technologies. One was a 28 home 'retrofit' of an estate in Manchester. The homes were 1970s construction and already had wall and loft insulation. The homes were electrically heated, with occupants paying a high pre-payment tariff while many had high levels of heating system operation and high thermostat settings which resulted in electricity bills of over £3000 per year for some and under-heating for others.

Retrofit measures installed were applied as a 'whole house' approach with a 'maximum improvement within reasonable cost' approach. These included cavity insulation extraction, cavity cleaning and insulation re-application, party wall insulation, replacement loft system insulation including draught proofing in the loft, enabling or correction works to de-risk future issues such as fixing the guttering.

Knauf Energy Solutions' measurement technology establishes the real performance of each home using sensors to measure how well an individual building's walls, roof, windows and doors retain heat. Over 12 weeks, data from the sensors is combined with weather data, energy meter readings and other intelligence, using machine learning algorithms to build an accurate picture of the real energy performance of the home. It found a 31 per cent average improvement in home fabric efficiency. The average energy saving of 2,071 kWh per year or £411 based on standard occupancy (tenants on pre-paid electricity meter at 19.85p per kWh). Higher users on the estate would see a saving of £660, and lowest user a saving of around £228.

Calculating the savings using the Government's National Energy Efficiency Dataset results showed an average 11 per cent reduction in energy use from installing loft and cavity insulation when compared with an equivalent property that was not insulated in a scheme. The homes' notional EPC rating (under the current system) remained mostly unchanged. Yet the Knauf calculations showed almost three times that improvement on that average and the 'worst' performer was still improved by 20 per cent. It said the EPC ratings do not necessarily reflect the actual energy performance of buildings because the current system makes no physical measurement on site.

Source: Knauf Insulation ([EEH0076](#)).²⁸⁴

140. BEIS told us that the Standard Assessment Procedure (SAP) and Reduced Data SAP (RdSAP) methodologies which underpin EPCs provide accurate and reliable assessments of the Energy Efficiency Rating and the Environmental Impact Rating. It said that the SAP is

updated regularly in line with updates to Part L6 of the Building Regulations. We will keep these methodologies under review as we develop policies and plans for improving the energy efficiency of homes and reducing fuel poverty, including those in rural areas.²⁸⁵

The Government's website states that the current SAP is from 2012 and that "a formal review is currently underway, which is expected to be completed in 2016".²⁸⁶ BEIS and MHCLG launched a call for evidence on EPCs in July 2018 to gather evidence on how they were working and how they could be improved. The results were published alongside an action plan in October 2020.²⁸⁷ This showed that only three per cent of respondents

284 Knauf Energy Solutions measurement approach is part of BEIS's SMETER ([Smart Meter Enabled Thermal Efficiency Ratings](#)) R&D project evaluating these home fabric performance measurement technologies.

285 Department for Business, Energy and Industrial Strategy ([EEH0024](#))

286 BEIS. [Standard Assessment Procedure](#) [accessed 4 Feb 2021]

287 BEIS and MHCLG. 2020. [Action plan for energy performance certificates](#)

thought that EPC assessments were reliable. The action plan indicated that, in the short term, actions would aim to improve EPC reliability, but in the longer term broader changes were needed to reflect real-world performance. By the end of 2021 the changes needed for SAP 11, expected to be rolled out in approximately 2025, will be reviewed to make EPCs more accurate which could include considering the potential role of Smart Meter Enabled Thermal Efficiency Ratings data in SAP.²⁸⁸

141. Energy Performance Certificates have a range of flaws, with their inability to reflect real-world energy performance being the biggest challenge. Desk-based assessments with out-of-date software are doing nothing to improve the market value of decarbonised homes and do not accurately reflect the progress the country is making in improving the energy efficiency of housing stock. Given their role underpinning Government policy and targets, EPCs should nevertheless be retained but thoroughly overhauled to ensure that they represent an accurate assessment of the improved energy performance of buildings.

142. We recommend the EPC methodology is fundamentally overhauled to support low carbon heating measures by indicating, in its headline rating not only the fuel cost of heating a property but also its energy and carbon metrics. The measures in the Government's EPC action plan are not enough to achieve what is needed to support the decarbonisation of homes: we recommend that Ministers look at this again with far greater urgency. Well in advance of 2025, while the energy market is rapidly decarbonising, we would like to see the introduction of EPCs more reflective of real-world performance, and the publication of regular updates on the developing methodology behind EPC assessments. Those carrying out EPC assessments should be suitably qualified and trained in energy modelling and assessment.

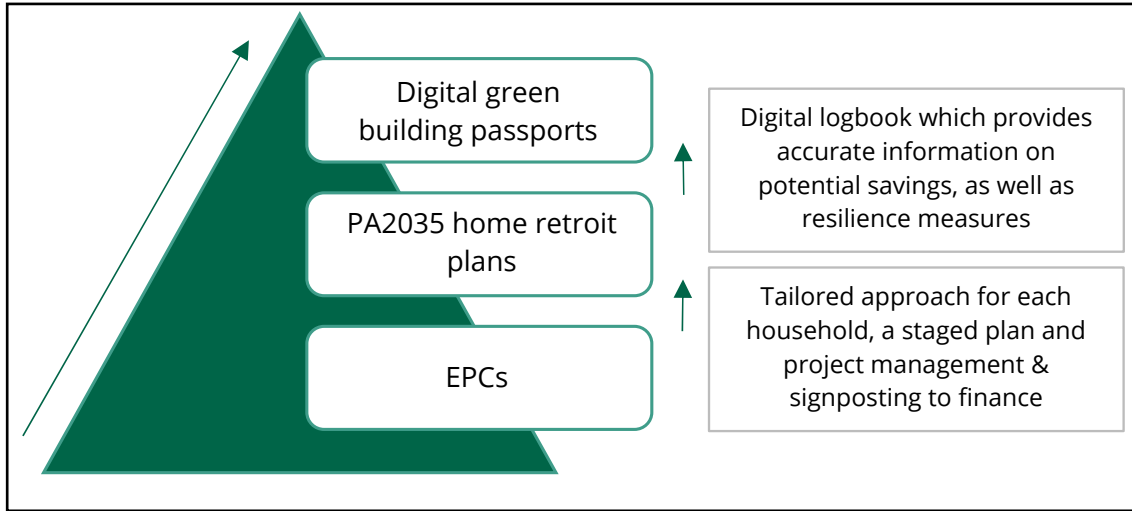
Building renovation passports

143. During the inquiry several witnesses supported the introduction of building renovation passports (BRPs) as a successor to Energy Performance Certificates.²⁸⁹ A BRP is an evolution of the EPC and uses measured data (e.g. kWh/m²) rather than deemed energy performance (i.e. SAP) (box 8). They are intended to outline a long-term—up to 15–20 years—step-by-step renovation roadmap to achieve deep renovation for a specific property. BRPs are expected to reflect the changing situation of the owner or occupier and to provide them with renovation options, expected benefits, including energy savings and comfort improvement.²⁹⁰

288 BEIS and MHCLG. 2020. [Action plan for energy performance certificates](#), recommendation 9

289 E3G ([EEH0107](#)), Energy Saving Trust ([EEH0102](#)); The Association for Decentralised Energy ([EEH0060](#)); Mayor of London ([EEH0071](#))

290 Isabel Barros Architects. [What is a building renovation passport?](#), [Accessed 24/05/20]

Box 8: The evolution to building renovation passports

Source: Climate Change Committee. 2020. [The sixth Carbon Budget: The UK's path to net zero](#)

144. Building renovation passports were recommended in a report to the Government by the Green Finance Taskforce, which said they should be introduced for residential and commercial properties by 2020.²⁹¹ Pedro Guertler from E3G told us that BRPs were being introduced in several European countries and were already being used in Germany. The benefits were that a homeowner could sequence improvements and align them with other work such as extending the loft or renovating a kitchen in a way compatible with work which might be required later.²⁹² This can reduce the disruption caused by building work, which was a key concern of the Climate Assembly UK.²⁹³ Russell Smith from RetrofitWorks said that they should be introduced across every type of tenure.²⁹⁴ Gavin Dick from the National Residential Landlords Association said that BRPs would be very helpful to landlords to allow them to plan their future costs:

Any landlord sitting there wants to know [...] “How much money will it cost to replace my boiler with an air source heat pump? What is that going to cost me and when should I do that intervention?” That is what people need to know, and only through something like a building passport will they be able to actually have that plan. It does not matter then if you have one property or 100 properties, you can make those decisions based on information against your properties.²⁹⁵

145. Jenny Hill, of the Climate Change Committee, said that BRPs could be “really transformational” at helping householders put in place a plan that is able to unlock green finance:

We think [building renovation passports] would be robust enough to unlock significant levels of green finance through, for instance, green mortgages.²⁹⁶

291 Green Finance Taskforce. 2018. Report to Government. [Accelerating Green Finance](#)

292 E3G ([EEH0107](#)); [Q45](#)

293 Climate Assembly UK. 2020. [The path to net zero](#)

294 [Q180](#)

295 [Q103](#)

296 [Q13](#)

146. Since its 2018 progress report to Parliament, the CCC has recommended that EPCs should be developed towards digital green building passports.²⁹⁷ The Green Finance Institute’s Coalition for Energy Efficiency in Buildings is currently working to develop an industry-recognised framework for a building renovation passport, while exploring opportunities with TrustMark, local authorities and devolved administrations to become early adopters of the framework.²⁹⁸ Dr Rhian Mari-Thomas explained:

One of the projects we are working on with our 200 coalition members is to bring out a feasibility study that sets out exactly what the data inputs and outputs should be for that sort of building/renovation passport, such that it would not just provide information on what measures are possible, and what a long-term renovation plan could look like, but would create a link with both the supply chain and the finance providers, making sure there is finance and advice made available at all the right points in that chain.²⁹⁹

When asked how long the rollout to BRPs would take, Dr Thomas said it would be “dependent on resources and financing”: she thought the rollout would be welcomed and the construction industry had been very positive.³⁰⁰

147. The Government’s EPC action plan noted that BRPs had been recommended by the Climate Change Committee and Green Finance Taskforce, but did not consider their potential role in improving energy efficiency measures.³⁰¹ When asked whether he would consider the replacement of EPCs with BRPs, Kwasi Kwarteng replied:

... we don’t have to have one metric. There is no sense in which it is a competition and we have to look at the best metric. There is a whole range of things that we need to look at.³⁰²

148. Building renovation passports have the potential to provide much more accurate data on energy usage and could be used to unlock green finance. They provide homeowners with long-term renovation strategies which can minimise disruption to their properties and thereby encourage more extensive retrofitting of energy efficiency measures.

149. *We recommend the Government develop an approved, standardised methodology and data framework for Building Renovation Passports and supports their roll-out, with a view to the eventual replacement of Energy Performance Certificates.*

Advice and support

150. The Climate Change Committee said in its 2020 progress report that the “lack of public awareness and support for low-carbon heating is arguably the single greatest consumer barrier to achieving net zero”.³⁰³ Improving the housing stock largely rests on the Government’s success in persuading homeowners to act. For this to happen, they need

297 Climate Change Committee. 2020. Sixth carbon budget interim findings; Climate Change Committee. 2020. [The sixth carbon budget: The UK’s path to net zero](#)

298 Coalition for the Energy Efficiency of Buildings, E3G ([EEH0017](#))

299 [Q98](#)

300 [Q102](#)

301 BEIS and MHCLG. 2020. [Action plan for energy performance certificates](#), section 2.3

302 [Q294](#)

303 Climate Change Committee. [Progress Report to Parliament 2020](#), p80

to know what work to get done, who can do them and how to pay for them. In England, the Government provides the Simple Energy Advice web service and recommends the PAS 2035 and TrustMark system for some publicly supported schemes taking people from an assessment through to an installation.³⁰⁴ Laura McGadie, group head of energy at the Energy Saving Trust, explained that as well as a need to raise awareness and provide information, an engagement programme was needed:

The engagement piece is missing to get people to look for the information in the first place and then to handhold them through the process, because we are asking them to do something quite complex and, in many cases, we are asking them to invest their own money.³⁰⁵

She added that to hit the net zero target a Government-supported advice service was “a crucial part of the picture” for consumer protection and to change people’s buying behaviour from gas boilers to air source heat pumps.³⁰⁶

151. The Energy Saving Trust said that its experience gained through delivering Home Energy Scotland (box 9) highlighted the value of bespoke advice and ‘handholding support’ for those who were looking to install more complex measures like solid-wall insulation or air source heat pumps.³⁰⁷ Where the Energy Saving Trust had given advice and people took action as a result, 87 per cent had said that its advice “made a contribution to” their decision. Laura McGadie explained why there was a need for a bespoke service:

You can certainly give some basic information, but if you are asking somebody to put in solid wall insulation and a heat pump, then you are asking them to do something quite significantly different from what they might be used to, so they need that support... They need that extra reassurance that the route they are going down is the right route.³⁰⁸

Box 9: Home Energy Scotland

Scotland’s national energy efficiency advice service is managed by the Energy Saving Trust, provides customers with “one-stop shop” information about, and access to, these schemes. All households can call Home Energy Scotland (HES) to receive general advice on energy in the home. Where relevant, HES can then refer its callers to the most appropriate financing programme specific to their personal circumstances. Scottish households cannot access much of the financing support without first talking to Home Energy Scotland, which helps prevent mis-selling (e.g. by ensuring householders get three quotes from different installers).

Home Energy Scotland provides additional in-depth, in-home handholding support to households in particular vulnerable groups, ensuring they do not miss out on the support provided. It also provides specialist advice services for more complex energy saving technologies, for example renewable energy technologies, energy storage and/or solid wall insulation in order to promote uptake of these improvements.

Source: Energy Saving Trust ([EEH0102](#))

304 [Simple Energy Advice](#); Press Release: [Businesses urged to sign up to offer green homes improvements](#), 12 August 2020

305 [Q212](#)

306 [Q212](#); [Q221](#)

307 Energy Saving Trust ([EEH0102](#)); [Q215](#)

308 [Q215](#)

152. Gavin Dick, from the National Residential Landlords Association, said that it had repeatedly asked for the same kind of information as available Scotland to be provided in England. He said that it should be available for everybody “to understand how to use properties, live in properties and use energy properly in the property”.³⁰⁹

153. We have heard of the benefits of a bespoke advice service on energy efficient retrofitting. We consider that such a service will be essential in order to achieve the pace of change needed to meet the net zero target.

154. We recommend the Government’s present basic energy advice service available in England is upgraded to a specialist bespoke advice service similar to the Home Energy Scotland network. This should include measures to identify the most appropriate financing programme for each consumer.

Sustainable building materials

155. The technology to improve the energy efficiency of homes already exists, although some measures such as solid wall insulation need cost reductions in order to scale up their use at pace. Unlike other sectors where technologies need to develop to facilitate carbon reduction on scale, energy efficient housing can be put in place immediately.³¹⁰ Mark Lynn, from Eden Renewable Innovations Ltd, told us that sustainable bio-based and breathable products and systems could provide many energy efficient, healthy, and sustainable improvements to existing homes but had been under-utilised in the UK to date despite being well established in other major European countries.³¹¹ Sustainable products include insulation made using natural fibres, breathable mineral, clay and lime-based plasters, renders, mortars, and paints as well as structural components made predominantly from timber. Bio-based materials such as sheep’s wool or wood sequester non-fossil carbon, while lime based renders, plasters and mortars have lower embodied carbon compared to equivalent cementitious materials due to the lower energy inputs during manufacture.³¹²

156. Natural fibre insulation (NFI) is highly suitable for use in the older, traditional properties of which there are eight million in the UK.³¹³ It provides greater breathability which helps with humidity and damp issues. NFI use, in new build and retrofit alike, accounts for between 0.2 and 0.3 per cent of the UK insulation market at contractors’ prices. By contrast, in France and Germany, its market penetration is at between five and ten per cent.³¹⁴ Mark Lynn explained that France had mandated the use of natural materials, with a requirement for 50 per cent natural materials in public buildings, by 2022. He added that this was highly ambitious, and the UK could not make this sort of mandate because the capacity to supply was not adequate at present.³¹⁵ Except for sheep’s wool, all natural fibre insulation is imported from mainland Europe to the UK. Brian Berry from the Federation

309 [Q77](#)

310 Leeds City Council, Leeds City Council, Greater Manchester Combined Authority, Nottingham City Council ([EEH0039](#))

311 [Q260](#); Eden Renewable Innovations Ltd (Thermafleece) ([EEH0126](#))

312 Eden Renewable Innovations Ltd (Thermafleece) ([EEH0126](#))

313 [Q257](#)

314 Eden Renewable Innovations Ltd (Thermafleece) ([EEH0126](#))

315 [Q260](#)

of Master Builders said that the availability of sustainable insulation materials was an issue and there were concerns about some products and availability post-covid and post-Brexit.³¹⁶

157. Asked how the Government was planning to support the supply chain for natural fibre insulation in the future, Kwasi Kwarteng said:

Supply chain issues are things that we are always mindful of in BEIS ... Clearly, things like the green home grant and our push to improve energy efficiency are things that we feel we should invest in in this country, and the supply chain is something that we look to. We do not have specific targets, but a lot of the supply chain is already based here in the UK. That is the nature of insulation and the nature of bringing in installers to people's homes; they generally tend to be UK-based. [...]

We are looking at all sorts of issues relating to the actual materials used in public buildings insulation. That is not something we have touched on here in this forum, but you will know from the manifesto that some £2.9 billion has been earmarked for public sector buildings. Within that, there is a debate to be had about the kinds of materials that companies can use.³¹⁷

158. Sustainable building materials are not being utilised to anywhere like their full potential in the UK. The use of natural fibre insulation could have significant benefits for the UK's older housing stock.

159. *We recommend that within its Heat and Buildings Strategy, the Government consider stipulating the use of sustainable materials in public sector energy efficiency contracts as a first incentive to drive the UK's domestic supply chain of these materials.*

316 [Q261](#)

317 [Q329](#)

Conclusions and recommendations

Achieving net zero

1. The scale of the challenge to retrofit existing homes to tackle the climate crisis is enormous. Energy efficiency is a precursor to the transition to low carbon heat, so action must be taken in the 2020s to set homes on a decarbonisation trajectory to meet our net zero targets. The Government's current targets for domestic energy efficiency are set for an 80 per cent reduction in emissions by 2050 and not the net zero target established in law. Yet the Government is not on track to meet even this. (Paragraph 29)
2. There is a wide variation in the costs for bringing all homes in the UK up to an EPC grade C. We have heard of costs averaging £18,000 to retrofit a property, before addition of a heat pump. Given that there are around 19 million properties in the UK in need of some energy efficiency upgrade, we consider that the overall cost to meet net zero from domestic buildings could be far more costly than the Government's estimate of between £35 billion and £65 billion. (Paragraph 30)
3. *We recommend that the Government review the feasibility of its aspiration to achieve a minimum of EPC band C by 2035, given current progress on improving energy efficiency. As well as setting out how it plans to meet existing targets, it should set out a strategy to increase ambition in line with its commitment to net zero through its Heat and Buildings Strategy.* (Paragraph 31)
4. *We recommend that BEIS review its cost projections on energy efficiency and includes the cost of low carbon heating. The Department should consult the building and retrofit sector to ensure that its top-down modelling reflects real-world costs. It should also set out the proportion of efficiency improvements it expects to be paid for from the public purse, and how many homes it considers out of scope for energy efficiency improvements under its definition of "cost effective, practical and affordable". There is a danger that these homes will be left behind, and this could impact on wellbeing and create permanent blight. The Government should explain in response to this report what its strategy is for those homes that will not achieve its energy efficiency aspirations.* (Paragraph 32)

Current Government policy on domestic energy efficiency

5. While the energy efficiency of two million homes has been successfully upgraded under the ECO, the number of measures installed has reduced significantly in recent years and the Government's fuel poverty targets are not expected to be met. The inability to use ECO with other sources of funding is hampering the deeper retrofits that are needed in social housing. Since ECO is funded by all energy bill payers, the poorest pay proportionally the most for the benefits from the scheme: this makes it a regressive policy. (Paragraph 41)
6. We support the extension of ECO to 2026 and the extra funding announced in the Fuel Poverty Strategy. The Government must review whether ECO is still delivering

value for money and whether the energy bill is the most appropriate, fair and effective means of funding the scheme, since the poorest households pay disproportionately towards its costs. (Paragraph 42)

7. *We recommend the Government reviews the way ECO is funded, in common with the other policy costs that are added to consumer electricity bills rather than gas. Disproportionate use of this regressive funding mechanism is hampering the adoption of low carbon heating options such as heat pumps. We recommend that the Government consults on the balance of levies on electricity versus gas/other fossil fuel heating sources, in order to encourage the uptake of electrifying home heating through the adoption of heat pumps.* (Paragraph 43)
8. We welcome the clarification provided in the Energy White Paper that Home Upgrade Grants will focus on the worst-quality off-gas grid homes with low income households in England. We consider that this focus is the right one. Using the indicative costs for improving energy efficiency and heat pump installation and the Government's pledged £2.5bn, we estimate around 100,000 homes may benefit from the scheme. This is welcome, but represents a fraction of the 1.5 million households off the gas grid who will need further support to upgrade their homes, irrespective of tenure in view of the high costs involved. (Paragraph 50)
9. *We recommend that Home Upgrade Grants are launched in full before the end of 2021, backed by the entirety of the funding pledged for the scheme, to mobilise supply chains for low carbon heating. The Government should also set out how it intends to administer the scheme and what role there will be for local authorities who are well placed to identify vulnerable households.* (Paragraph 51)
10. We welcome the Government's introduction of a scheme for owner occupiers to fund energy efficiency improvements. Such a scheme is essential in order to achieve the ambition to reach energy efficient homes by 2030, given this is by far the largest pool of housing stock across the UK. But the Green Homes Grant has been rushed in conception and poorly implemented. In its haste to create a scheme to deliver economic stimulus, the Government failed to consult industry adequately on its delivery, set a timescale which was overly short term and has presided over scheme administration which appears nothing short of disastrous. If the ambition for the scheme to retrofit 600,000 homes envisaged completion of the work by the end of the current financial year, then the Government has been wildly optimistic in its scheme planning and industry engagement. The impact of its botched implementation has had devastating consequences on many of the builders and installers that can do the work, who have been left in limbo as a result of the orders cancelled and time taken to approve applications. (Paragraph 69)
11. It is commendable that the Government has been keen to avoid fraud in administration of the scheme by only allowing Trustmark and PAS registered companies to participate. But the anti-fraud precautions have been so complex that vouchers are simply not being issued. Consumers are frustrated by delays in delivery, and the industry which the scheme was set up to support has been completely failed. Companies are losing orders, laying off staff and have warned they may close

altogether. Extraordinarily, rather than providing an economic stimulus for sector recovery, the scheme's operation may have reduced its capacity in the short term. (Paragraph 70)

12. *We recommend that the Green Homes Grant scheme be urgently overhauled and extended to provide a genuine long-term stimulus to the domestic energy efficiency sector. The scheme should not be scrapped or quietly wound down. The Government must address the design and administration issues with the scheme, and all allocated funding that has not been spent by the end of March 2021 should be rolled over into the next financial year. A multi-annual scheme must be delivered to provide the financial support to owner occupiers and build trust within the industry to encourage installers to get accredited and enable companies to hire staff. In its response to this report the Government should set out how it intends to revise the types of measures included in the scheme, streamline the application process, including the number of quotes required for application, and remove unnecessary bureaucracy at every step.* (Paragraph 71)
13. Sustained delivery of measures to support the transition to a 68 per cent reduction in emissions by 2030, and net zero by 2050, will require strategic planning and thorough engagement with all stakeholders. The Government's strategic ambitions here require multi-annual spending commitments which may need to supersede Spending Review perspectives. Short-term tactical fixes in this sector, designed to deliver quick wins, have been proven to be counterproductive when not designed as part of an overall strategy. (Paragraph 72)
14. *We recommend that BEIS and the Treasury undertake a joint review of the preparation, launch, funding and delivery of the Green Homes Grant programme, and that the recommendations of that review be applied to all cross-Government working on programmes to deliver net zero objectives.* (Paragraph 73)
15. We welcome the Green Homes Grant Local Authority Delivery scheme, and, in particular, the fact that it can be used to deliver improvements across all tenures. We consider that it has real potential to help build local authority capacity and energy efficiency supply chains by supporting area based approaches. (Paragraph 77)
16. *We recommend that, following an evaluation of Phase Two, the scheme is expanded with a larger budget, over a multi-year period, and a greater role for BEIS's local energy hubs to supplement local authority capacity.* (Paragraph 78)
17. We welcome the Social Housing Decarbonisation fund and support its aims to retrofit social housing at scale. However, to date only a fraction of the funding has been made available for demonstrator projects that may well not deliver the efficiencies that larger schemes could achieve. (Paragraph 85)
18. *The Government should bring forward the allocation of the £3.8bn of funding pledged before the 2019 general election. This would deliver cost savings at scale. This funding should be frontloaded to reap the benefits of cumulative emissions savings towards net zero. The Government should also allow housing associations to lead bids, so as to ensure that the available funding is used quickly and effectively.* (Paragraph 86)

19. The proposed extension to the Warm Home Discount provides no apparent incentive to poor or vulnerable customers to invest in improving the energy efficiency of their homes. Energy efficiency is the most sustainable long-term solution to fuel poverty. The money earmarked for additional years of the scheme could be better applied to support energy efficiency objectives more directly, through Home Upgrade Grants or the Energy Company Obligation, to improve energy efficiency and to lower energy bills in perpetuity for those struggling to pay. (Paragraph 89)

Stimulating further progress in energy efficiency

20. Stop-start Government policies and intermittent funding streams have resulted in a dearth of installers of energy efficiency measures. A lack of accredited tradespeople has hampered the initial delivery of the Green Homes Grant, and there is a significant risk that the Government will not meet its heat pump installation targets due to a lack of qualified tradespeople. (Paragraph 100)
21. Whilst we welcome the launch of the Green Jobs Taskforce and the Green Homes Grant Skills Training Competition, the Government must create a visible, long-term market that makes energy efficiency and heat pump installation a stable and desirable profession. The Department for Business, Energy and Industrial Strategy, working with the Department for Education, should commit to the funding of a dedicated training programme to support a long-term strategy for education and training in green jobs. Training is also required to develop the networks of advisers and coordinators which will underpin the successful growth of employment opportunities in the sector. (Paragraph 101)
22. *We recommend that as part of the forthcoming Heat and Buildings strategy a national retrofit strategy is developed with colleges and other education providers to provide the training and re-training needed to prepare our homes for a low-carbon future. The strategy must address the much-needed increase in certified heat pump installers to meet expected demand including through recruitment incentives, with support for apprenticeships and reskilling.* (Paragraph 102)
23. We support the introduction of minimum energy performance standards across all tenures. Without these minimum standards, it is unlikely the Government's overall ambitions on retrofitting energy efficiency will be achieved. (Paragraph 110)
24. *We recommend that the social rented sector should be subject to the same standards as the private rented sector.* (Paragraph 111)
25. *In its forthcoming Heat and Buildings Strategy, the Government, acting on the advice of the Climate Change Committee, should set an ambitious and realistic trajectory for owner occupiers to achieve minimum EPC C standards. The CCC recommends that by 2028 all properties achieve EPC level C at the point of sale. This is a hugely ambitious target and the Government must set out how it plans to raise public engagement and revise its delivery mechanisms to achieve this target and specify where exemptions may be necessary. These measures may include cost caps to be applied to such work and exemptions from the requirement to meet these standards: for instance, on the grounds of affordability or for properties recognised as hard to treat. It should also*

ascertain the risks of creating a two-tier mortgage market and long-term blight for owner occupiers and the private rented sector of hard-to adapt properties and identify and implement measures to avoid this impact. (Paragraph 112)

26. Green finance options are essential to encourage owner occupiers to take action on energy efficiency. We welcome the ambition of some leading lenders to make green mortgages available, and the Government consultation on how mortgage lenders can help householders to improve the energy performance of their homes. (Paragraph 129)
27. Alongside an extension of the Green Homes Grant, other financial incentives, such as low interest loans, will need to be made available to owner occupiers and landlords to achieve the thorough retrofit of domestic housing stock the Government envisages. The Green Finance Institute has identified 21 possible products. It is therefore disappointing that the Green Home Finance Innovation Fund only looked at green mortgages and did not pilot stamp duty rebates and low interest loans which have shown considerable success in other parts of the world. We look forward to hearing more details from the Government on how the proposed National Infrastructure Bank will be used to finance domestic energy efficiency. (Paragraph 130)
28. Despite the need to make progress in improving energy efficiency of 19 million homes to achieve net zero Britain objectives, no mention was made in the Budget statement on 3rd March by the Chancellor of energy efficiency, nor any steps taken to improve delivery of the Green Homes Grant, his flagship measure announced by him in July 2020, which has so far signally failed to deliver its targets. (Paragraph 131)
29. *We recommend that the Chancellor of the Exchequer look again at proposals to reduce to five per cent the rate of VAT on the labour element of refurbishment and renovations. The Government should also bring forward proposals to reinstate the reduced rate of VAT payable on Energy Saving Materials at its former level of five per cent and to expand its scope to cover energy storage, heat pumps and electric vehicle charging.* (Paragraph 132)
30. *We support and reiterate the Green Finance Taskforce recommendation that the Government should pilot a stamp duty rebate for homeowners that improve the efficiency of their homes within the first year of purchase. We recommend that the Government work with the financial sector and major landlords, including local authorities and other social landlords, to stimulate renovation through the introduction of green mortgages, green finance and low cost loans. These instruments would help to address the barriers to energy efficient renovation and retrofit in the form of high upfront costs of energy efficiency measures. The Government should consider how the national infrastructure bank could be used as a vehicle to finance energy efficiency given the scale of success achieved in Germany through its state funded low interest loan scheme.* (Paragraph 133)
31. *The Government should work with the financial services sector to devise and implement a communications strategy to raise awareness about, and to encourage the uptake of, appropriate types of financing measures already on the market being offered, such as green mortgages.* (Paragraph 134)

32. Energy Performance Certificates have a range of flaws, with their inability to reflect real-world energy performance being the biggest challenge. Desk-based assessments with out-of-date software are doing nothing to improve the market value of decarbonised homes and do not accurately reflect the progress the country is making in improving the energy efficiency of housing stock. Given their role underpinning Government policy and targets, EPCs should nevertheless be retained but thoroughly overhauled to ensure that they represent an accurate assessment of the improved energy performance of buildings. (Paragraph 141)
33. *We recommend the EPC methodology is fundamentally overhauled to support low carbon heating measures by indicating, in its headline rating not only the fuel cost of heating a property but also its energy and carbon metrics. The measures in the Government's EPC action plan are not enough to achieve what is needed to support the decarbonisation of homes: we recommend that Ministers look at this again with far greater urgency. Well in advance of 2025, while the energy market is rapidly decarbonising, we would like to see the introduction of EPCs more reflective of real-world performance, and the publication of regular updates on the developing methodology behind EPC assessments. Those carrying out EPC assessments should be suitably qualified and trained in energy modelling and assessment.* (Paragraph 142)
34. Building renovation passports have the potential to provide much more accurate data on energy usage and could be used to unlock green finance. They provide homeowners with long-term renovation strategies which can minimise disruption to their properties and thereby encourage more extensive retrofitting of energy efficiency measures. (Paragraph 148)
35. *We recommend the Government develop an approved, standardised methodology and data framework for Building Renovation Passports and supports their roll-out, with a view to the eventual replacement of Energy Performance Certificates.* (Paragraph 149)
36. We have heard of the benefits of a bespoke advice service on energy efficient retrofitting. We consider that such a service will be essential in order to achieve the pace of change needed to meet the net zero target. (Paragraph 153)
37. *We recommend the Government's present basic energy advice service available in England is upgraded to a specialist bespoke advice service similar to the Home Energy Scotland network. This should include measures to identify the most appropriate financing programme for each consumer.* (Paragraph 154)
38. Sustainable building materials are not being utilised to anywhere like their full potential in the UK. The use of natural fibre insulation could have significant benefits for the UK's older housing stock. (Paragraph 158)
39. *We recommend that within its Heat and Buildings Strategy, the Government consider stipulating the use of sustainable materials in public sector energy efficiency contracts as a first incentive to drive the UK's domestic supply chain of these materials.* (Paragraph 159)

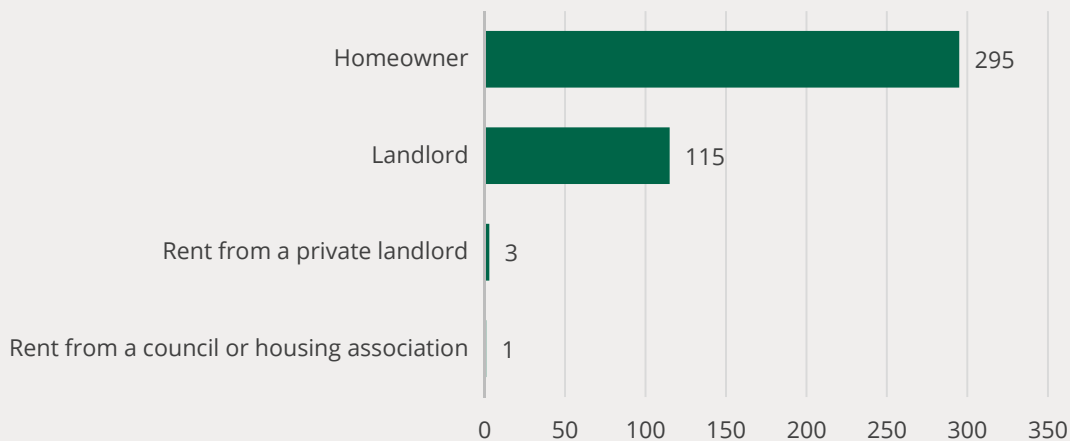
Appendix

Outcome of the Committee's Green Homes Grant survey

The Committee conducted its online survey between 2nd and 16th November 2020 which was promoted through the Select Committee Engagement Team, to relevant petitioners to the Petitions Committee and through the Committee's newsletter and social media. It also appeared on the Money Saving Expert Forum. The survey received 510 responses and 414 of those had accessed the grant. Those who had not accessed the grant did not progress through to answer later questions. The survey was conducted prior to the Government announcing the year long extension to the scheme, and we acknowledge that respondents are from a self-selecting pool.

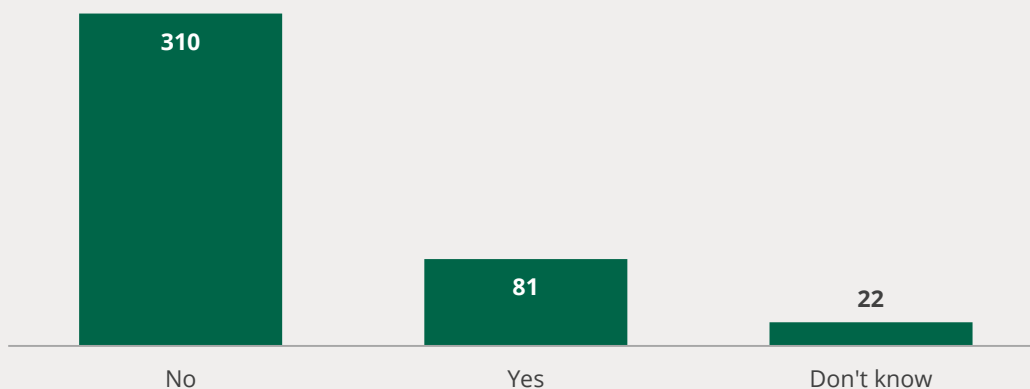
What is your residential status?

Environmental Audit Committee survey, November 2020



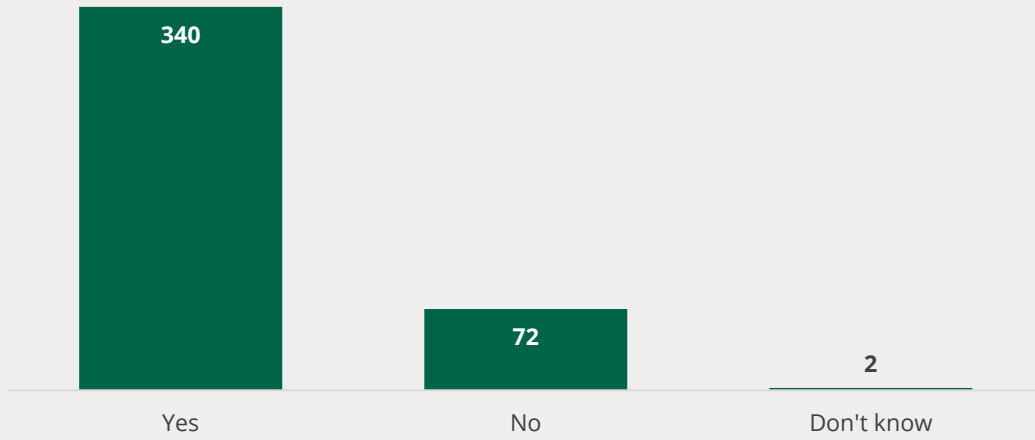
Are you from a low income household (as defined by the Green Homes Grant scheme)?

Environmental Audit Committee survey, November 2020



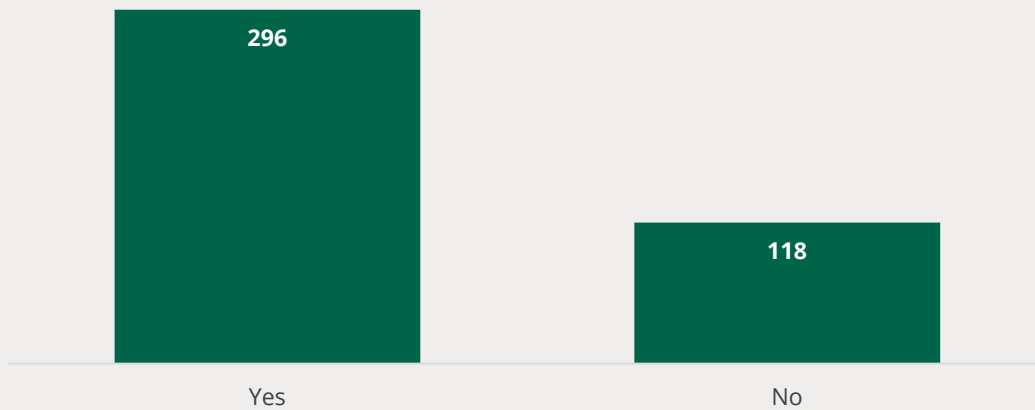
Is your home connected to the gas grid?

Environmental Audit Committee survey, November 2020



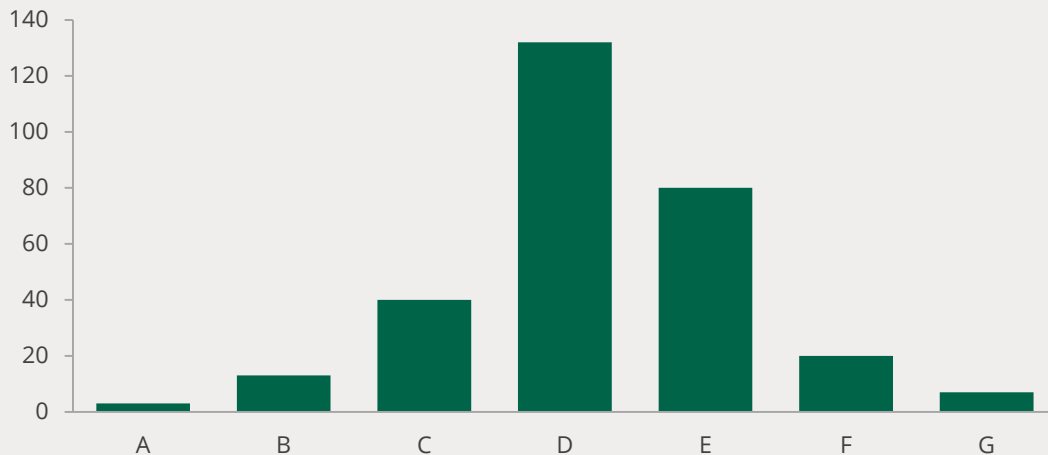
Do you know your EPC rating?

Environmental Audit Committee survey, November 2020



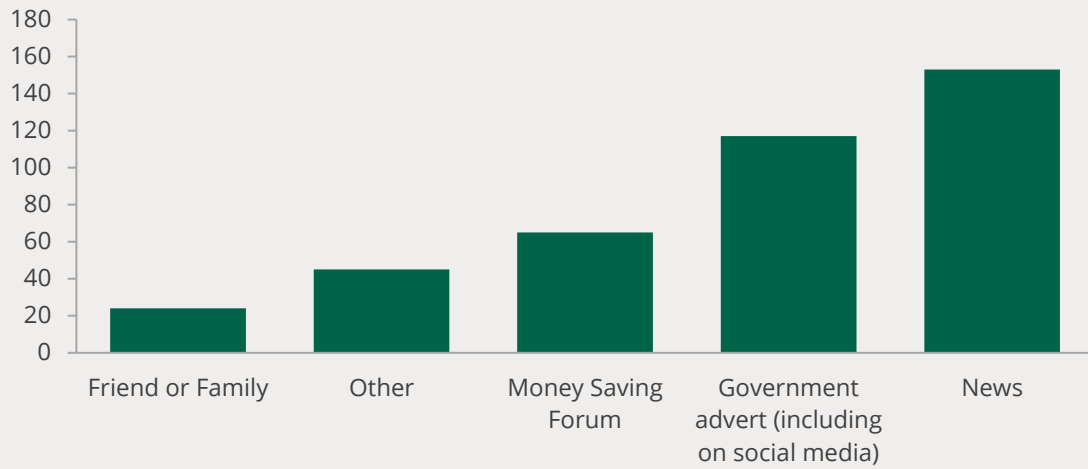
What is your EPC rating?

Environmental Audit Committee survey, November 2020



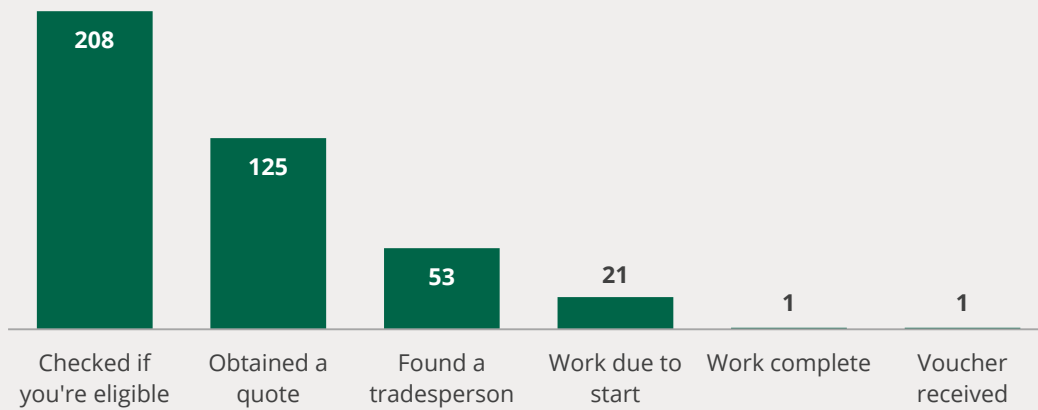
How did you hear about the Green Homes Grant?

Environmental Audit Committee survey, November 2020



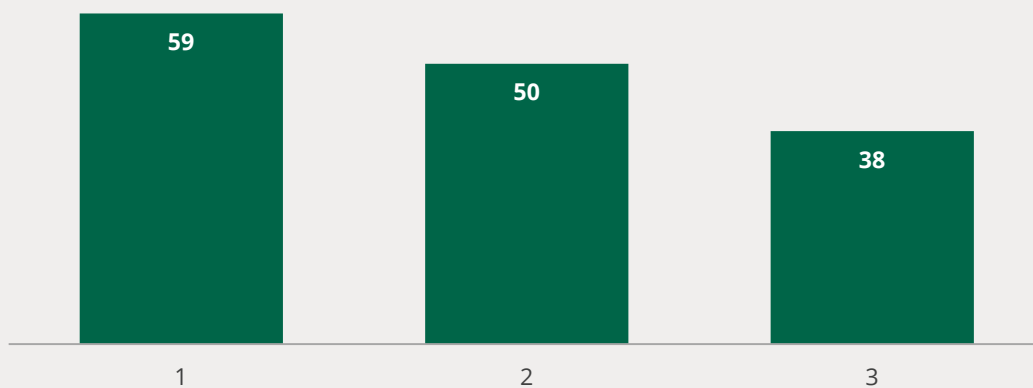
How far through the Green Homes Grant process are you?

Environmental Audit Committee survey, November 2020



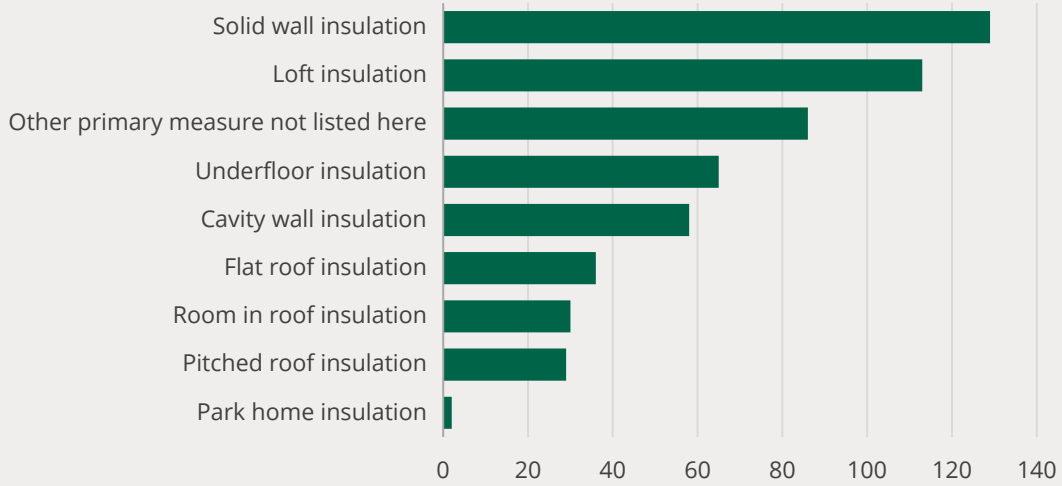
How many quotes did you obtain?

Environmental Audit Committee survey, November 2020



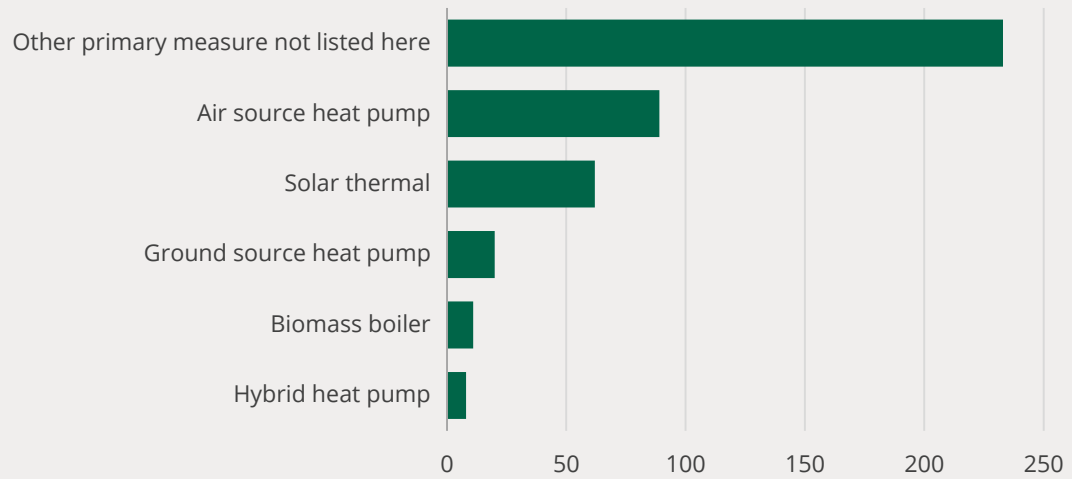
If successful, which primary measures (insulation) would you like to use the grant for? Tick all that apply.

Environmental Audit Committee survey, November 2020



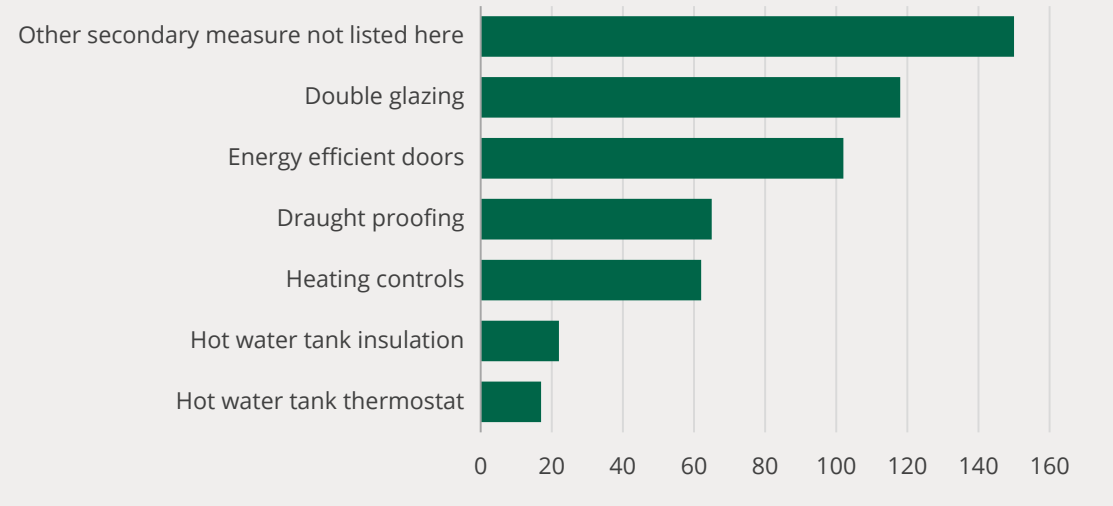
If successful, which primary measures (low carbon heat) would you like to use the grant for? Tick all that apply.

Environmental Audit Committee survey, November 2020



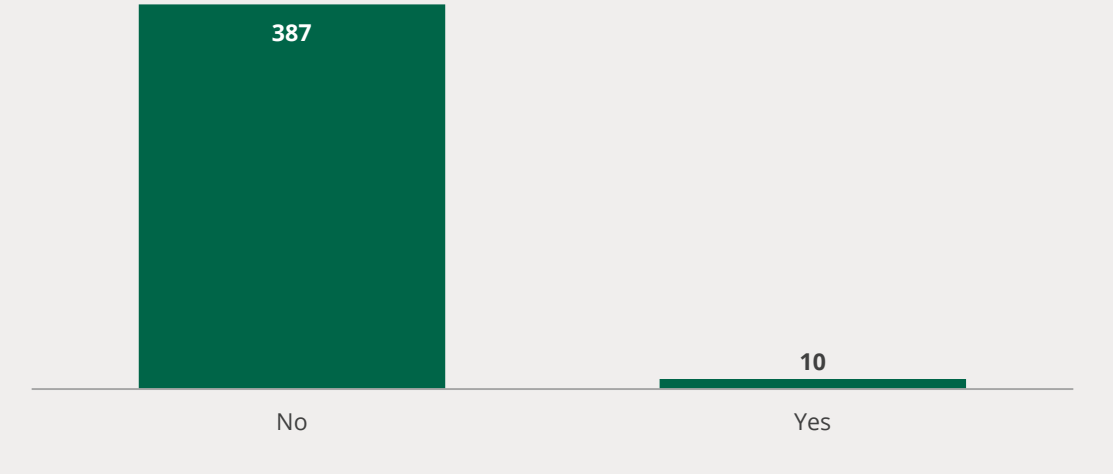
If successful, which secondary measures would you like to use the grant for ? Tick all that apply.

Environmental Audit Committee survey, November 2020



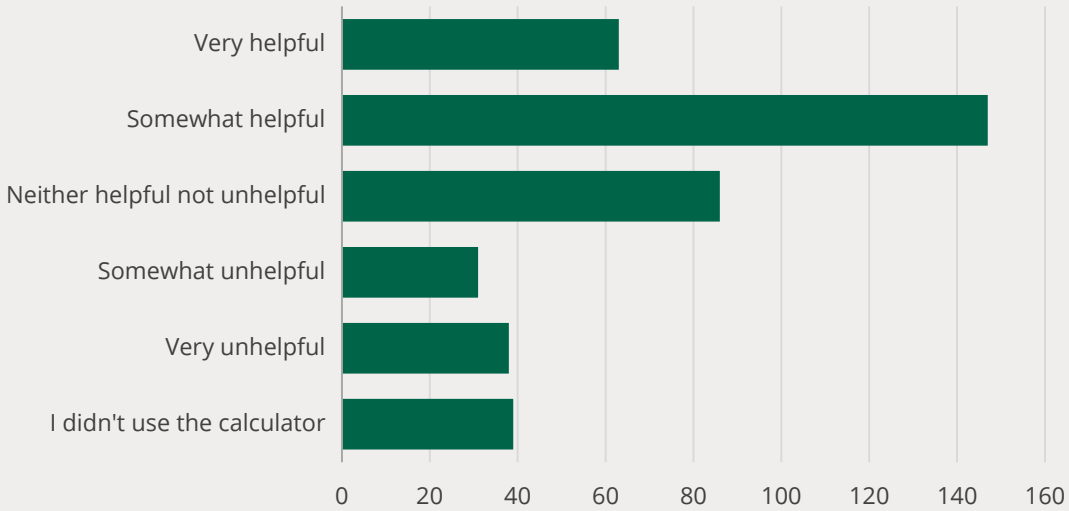
Have you been able to install what you required?

Environmental Audit Committee survey, November 2020



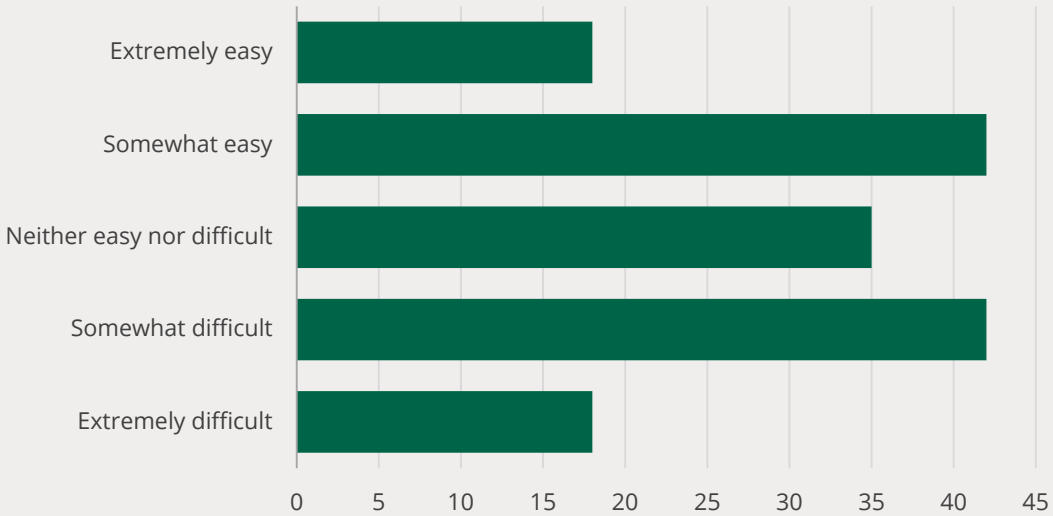
How helpful was the eligibility calculator?

Environmental Audit Committee survey, November 2020



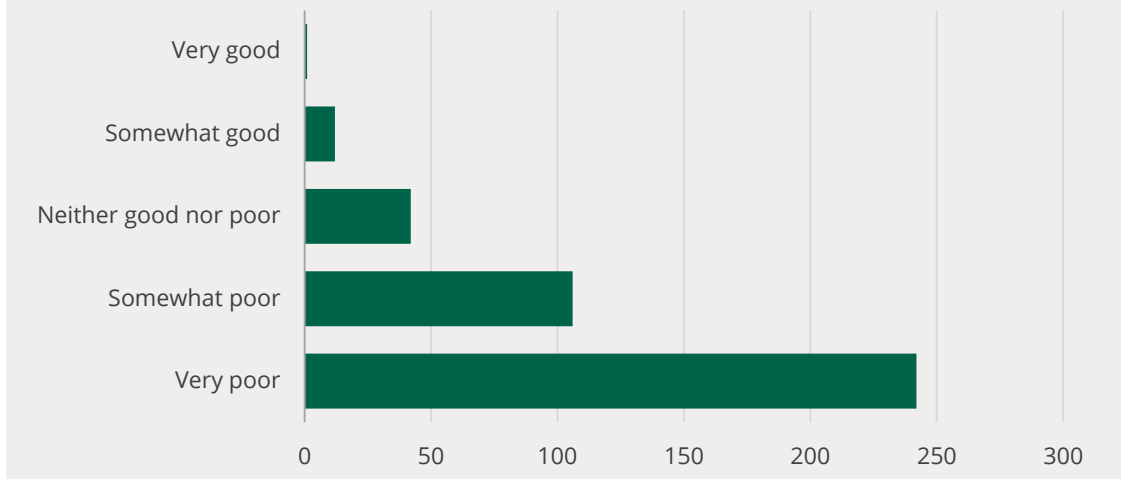
How easy was it to find a Trustmark registered contractor?

Environmental Audit Committee survey, November 2020



Overall, how would you rate your experience with the Green Homes Grant?

Environmental Audit Committee survey, November 2020



Other issues raised by respondents:

Many experienced delays in hearing back from the scheme:

I've been waiting for nearly a month now to hear back whether my application has been accepted or not.

I applied on the day it opened but still haven't received a single update about my application. My installer is waiting to start but can't because I need the voucher.

they [the installer] were unable to schedule work until the voucher had been received, this delayed the process.

Homeowners must install primary measures before receiving the same funding towards secondary measures. Respondents told us:

Most of my rental properties are rated D, I am limited in applying for the grant because primary measures are either already done or too expensive.

The secondary measures are much more useful but inaccessible [...] as the primary measures are simply too costly.

I have a listed building so cannot install any of the primary measures, but I was unable to find any information on listed buildings and whether we could go straight to secondary measures.

I have already installed all the primary measures with the exception of a ground or air heat source pump. These can cost up to £20,000 and our small cottage has no room for the equipment let alone any garden requirements. So our double glazing requirements (to replace a wooden front door) are negated because there would be no balance of monies left to help with secondary measures.

A number of respondents told us that contractors they had hoped to use were either not aware of the scheme or did not want to sign up to it:

It appears that the scheme was rolled out without contractors being given the opportunity to register themselves with the scheme [...] many companies did not know yet if they were eligible.

I know a qualified contractor who still struggles to get into the scheme because it is too complex and unclear making it unachievable.

Many local traders are unaware of the scheme and have therefore not had the time to become certified in the relevant areas to become a TrustMark trader.

Contractors who are registered with the scheme have been inundated with requests for quotes:

The distinct lack of tradesmen in the area is a problem as not many are members of the TrustMark scheme, those that are have therefore been overwhelmed with requests.

I contacted 24 different tradesmen on the website to try to get a quote. Only two came back and one of the quotes runs out next week.

I contacted over 17 TrustMark firms. All of them refused me saying they had either decided not to continue with the scheme, or that they had been overwhelmed by the take up and could not take any more enquiries.

Formal minutes

Tuesday 16 March 2021

Members present:

Philip Dunne, in the Chair

Duncan Baker	Cherilyn Mackrory
Barry Gardiner	Jerome Mayhew
Mr Robert Goodwill	John McNally
Ian Levy	Dr Matthew Offord
Caroline Lucas	Nadia Whittome

The Committee deliberated.

Draft Report (*Energy efficiency of existing homes*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 159 read and agreed to.

Summary agreed to.

Annex agreed to.

Resolved, That the Report be the Fourth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, that embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Wednesday 17 March at 2.00 pm.]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Thursday 15 October 2020

Jenny Hill, Head of Buildings and International Action, Committee on Climate Change; **Simon Bittlestone**, Audit Manager, National Audit Office; **Katie Black**, Director of Policy, National Infrastructure Commission [Q1–36](#)

Sarah Kostense-Winterton, Chair, Energy Efficiency Infrastructure Group; **Michael Lewis**, Chief Executive Officer, E.ON; **Jenny Holland**, Public Affairs and Policy Specialist, UK Green Building Council; **Pedro Guertler**, Programme Leader, E3G [Q37–76](#)

Wednesday 04 November 2020

Dr Rhian-Mari Thomas OBE, Chief Executive, Green Finance Institute; **Claire Tracey**, Chief Strategy and Sustainability Officer, Nationwide Building Society; **Gavin Dick**, Local Authority Policy Officer, National Residential Landlords Association [Q77–124](#)

Dr Joanne Wade OBE, Chief Strategic Advisor, The Association for Decentralised Energy; **Jonathan Ducker**, Head of Regulatory Affairs, Kingspan; **Mr Peter Smith**, Director of Policy and Research, National Energy Action (NEA); **Robert Tiffin**, Director, Ecotiffin, London Vice President, Federation of Master Builders [Q125–163](#)

Wednesday 18 November 2020

Karen Brown, Senior Policy Advisor, Northern Housing Consortium; **Russell Smith**, Managing Director, Retrofitworks; **George Munson**, Senior Project Manager, Leeds City Council and the Core Cities Energy Efficiency Group [Q164–207](#)

Simon Ayers, Chief Executive Officer, TrustMark; **Brian Berry**, Chief Executive, Federation of Master Builders; **Laura McGadie**, Group Head of Energy, Energy Saving Trust; **Mark Lynn**, Managing Director, Eden Renewable Innovations Ltd (Thermafleece), Vice Chair, Alliance for Sustainable Building Products [Q208–261](#)

Wednesday 02 December 2020

Rt Hon Kwasi Kwarteng MP, Minister of State, Department for Business, Energy and Industrial Strategy; **Rt Hon Christopher Pincher MP**, Minister of State, Ministry of Housing, Communities and Local Government; **Kemi Badenoch MP**, Exchequer Secretary, HM Treasury; **Ben Golding**, Director of Energy Efficiency and Local, Department for Business, Energy and Industrial Strategy; **Jon Fuller**, Deputy Director: Energy, Environment and Agriculture, HM Treasury; **Emma Fraser**, Housing Markets and Strategy Director, Ministry of Housing, Communities and Local Government [Q262–332](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

EEH numbers are generated by the evidence processing system and so may not be complete.

- 1 AgilityEco ([EEH0025](#))
- 2 All Party Parliamentary Group for Healthy Homes and Buildings ([EEH0042](#))
- 3 Ambion ([EEH0094](#))
- 4 Anglian Water Services ([EEH0005](#))
- 5 Architect's Climate Action Network ([EEH0109](#))
- 6 Arrol Architects ([EEH0129](#))
- 7 Barradine, Ann ([EEH0131](#))
- 8 Bhagwat, Amit ([EEH0036](#))
- 9 Blakemore, Chair David ([EEH0001](#))
- 10 British Energy Efficiency Federation ([EEH0123](#))
- 11 British Urethane Foam Contractors Association ([EEH0057](#))
- 12 Building Societies Association ([EEH0043](#))
- 13 CIBSE - Chartered Institution of Building Services Engineers ([EEH0056](#))
- 14 CLA ([EEH0020](#))
- 15 Cadent ([EEH0033](#))
- 16 Cadent Gas Limited ([EEH0038](#))
- 17 Calor Gas ([EEH0088](#))
- 18 Carpenter, Mr Ralph ([EEH0003](#))
- 19 Cenergist ([EEH0100](#))
- 20 Central Association of Agricultural Valuers ([EEH0047](#))
- 21 Centre for Research into Energy Demand Solutions (CREDS) ([EEH0062](#))
- 22 Chambers, Dr Jonathan; and Cozza, Mr Stefano ([EEH0008](#))
- 23 Charities Property Association ([EEH0090](#))
- 24 Chartered Institute of Building ([EEH0073](#))
- 25 Chartered Institute of Environmental Health ([EEH0035](#)), ([EEH0119](#))
- 26 Chartered Institute of Housing ([EEH0021](#))
- 27 Chittenden, Mr Andy (Private Sector Housing Team Leader, Hertsmere Borough Council) ([EEH0029](#))
- 28 Citizens Advice ([EEH0079](#))
- 29 Climate Change Committee ([EEH0124](#))
- 30 Coalition for the Energy Efficiency of Buildings ; and E3G ([EEH0017](#))
- 31 Committee on Fuel Poverty ([EEH0037](#))
- 32 Common Weal ([EEH0045](#))
- 33 Confederation of British Industry ([EEH0105](#))

- 34 Cowling, Dr AP (Lead DraughtBuster , Reading DraughtBusters) ([EEH0006](#))
- 35 Department for Business, Energy and Industrial Strategy ([EEH0024](#))
- 36 Department of Architecture and the Built Environment, Faculty of Environment and Technology, University of the West of England ([EEH0127](#))
- 37 Dillon, Hannah (Head of Campaign, The Zero Carbon Campaign) ([EEH0013](#))
- 38 E.ON UK ([EEH0069](#))
- 39 E3G ([EEH0107](#))
- 40 ECD Architects ([EEH0058](#))
- 41 EcoSpray-Foam Systems Ltd ([EEH0133](#))
- 42 Eden Renewable Innovations Ltd (Thermafleece) ([EEH0126](#))
- 43 Elmhurst Energy ([EEH0050](#))
- 44 Energiesprong UK ([EEH0048](#))
- 45 Energy and Climate Intelligence Unit ([EEH0002](#))
- 46 Energy Saving Trust ([EEH0102](#))
- 47 Energy UK ([EEH0110](#))
- 48 Energy & Utilities Alliance ([EEH0019](#))
- 49 Environmental Treatment Concepts Ltd ([EEH0007](#))
- 50 Facilitating the Future ([EEH0018](#))
- 51 Federation of Master Builders ([EEH0046](#))
- 52 Gemserv ([EEH0054](#))
- 53 Generation Rent ([EEH0122](#))
- 54 Gleeson Homes ([EEH0101](#))
- 55 Glew, David (Reader in Energy Efficiency and Policy, Leeds Sustainability Institute) ([EEH0111](#))
- 56 Greater Manchester Combined Authority ([EEH0063](#))
- 57 Green Alliance ([EEH0093](#))
- 58 Historic England ([EEH0065](#))
- 59 Historic Houses ([EEH0061](#))
- 60 Holloway, Mathew (CEO, Q-Bot) ([EEH0009](#))
- 61 Hope Valley Climate Action ([EEH0015](#))
- 62 Hughes Architects ([EEH0130](#))
- 63 Institute for Public Policy Research ([EEH0099](#))
- 64 Institute of Historic Building Conservation ([EEH0092](#))
- 65 JJ Crump and Son ([EEH0010](#))
- 66 Jaksch, Claudia (Head of Sustainability, Policy Connect) ([EEH0011](#))
- 67 Jofeh, Mr Christopher (Chair, Independent Welsh Government advisory group on the decarbonisation of existing homes) ([EEH0027](#))
- 68 Kingspan Insulation ([EEH0098](#))
- 69 Knauf Insulation ([EEH0076](#))

- 70 LGUK ([EEH0097](#))
- 71 LHC ([EEH0132](#))
- 72 Leeds City Council; Leeds City Council; Greater Manchester Combined Authority ;
and Nottingham City Council ([EEH0039](#))
- 73 Liquid Gas UK ([EEH0117](#))
- 74 Local Government Association ([EEH0012](#))
- 75 London Councils ([EEH0028](#))
- 76 London Environment Group ([EEH0089](#))
- 77 MCS Charitable Foundation ([EEH0125](#))
- 78 Mayor of London ([EEH0071](#))
- 79 Mineral Wool Insulation Manufacturers Association (MIMA) ([EEH0032](#))
- 80 Naked Energy ([EEH0095](#))
- 81 National Energy Action (NEA) ([EEH0085](#)), ([EEH0120](#)), ([EEH0115](#))
- 82 National Housing Federation ([EEH0022](#))
- 83 National Insulation Association ([EEH0074](#))
- 84 National Residential Landlords Association ([EEH0084](#))
- 85 National Trust ([EEH0052](#))
- 86 Nationwide Building Society ([EEH0031](#))
- 87 Northern Housing Consortium ([EEH0080](#))
- 88 Octopus Group ([EEH0026](#))
- 89 OFTEC ([EEH0113](#))
- 90 Olivier, David ([EEH0087](#))
- 91 Orchard Partners London Ltd ([EEH0016](#))
- 92 Passivhaus Trust ([EEH0055](#))
- 93 People Powered Retrofit ([EEH0096](#))
- 94 Perkins, Andy (Managing Director, EnergyZone) ([EEH0116](#))
- 95 Plunkett, Mr David; and Challen, Mr David ([EEH0041](#))
- 96 Preston, John (Council member, Institute of Historic Building Conservation)
([EEH0104](#))
- 97 Property Care Association ([EEH0070](#))
- 98 Property Energy Professionals Association (PEPA) ([EEH0066](#))
- 99 Qidos ([EEH0103](#))
- 100 ROCKWOOL Ltd ([EEH0023](#))
- 101 Royal Institute of British Architects ([EEH0077](#))
- 102 Royal Institution of Chartered Surveyors ([EEH0030](#))
- 103 Scharf, Mr Daniel ([EEH0014](#))
- 104 ScottishPower ([EEH0106](#))
- 105 Smart Energy GB ([EEH0040](#))
- 106 Social Market Foundation ([EEH0064](#))

- 107 Stonewater Ltd ([EEH0086](#)), ([EEH0118](#))
- 108 Sustainable Energy Association ([EEH0082](#))
- 109 Sustainable Traditional Buildings Alliance ([EEH0075](#)), ([EEH0114](#))
- 110 The Active Building Centre ([EEH0044](#))
- 111 The Architects' Journal ([EEH0072](#))
- 112 The Association for Decentralised Energy ([EEH0060](#))
- 113 The Association of Local Energy Officers (London) ([EEH0049](#))
- 114 The C.H.E.E.S.E. Project CIC ([EEH0004](#))
- 115 The Environment Centre (tEC) ([EEH0059](#))
- 116 The Equity Release Council ([EEH0081](#))
- 117 UKGBC ([EEH0091](#))
- 118 UNISON ([EEH0108](#))
- 119 Use the Sun Ltd ([EEH0134](#))
- 120 Vaillant Group UK Ltd ([EEH0068](#))
- 121 Waterwise ([EEH0121](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the publications page of the Committee's website.

Session 2019–21

Number	Title	Reference
1st	Electronic Waste and the Circular Economy	HC 220
2nd	Pre-appointment hearing for the Chair-Designate of the Office for Environmental Protection (OEP)	HC 1042
3rd	Growing back better: putting nature and net zero at the heart of the economic recovery	HC 347
1st Special	Invasive species: Government Response to the Committee's First Report of Session 2019	HC 332
2nd Special	Our Planet, Our Health: Government Response to the Committee's Twenty-First Report of Session 2017–19	HC 467
3rd Special	Electronic Waste and the Circular Economy: Government Response to the Committee's First Report	HC 1268