



BRIEFING PAPER

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Housing and Net Zero

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Contents:

- 1. Introduction**
- 2. Government Policy on New Homes**
- 3. Retrofitting and the Wider Housing Stock**
- 4. Assessments of Government Progress**



Contents

Summary	3
1. Introduction	5
2. Government Policy on New Homes	7
2.1 Zero Carbon Homes	7
2.2 The Clean Growth Strategy	7
2.3 Spring Statement 2019 commitments	8
2.4 Future Homes Standard	9
3. Retrofitting and the Wider Housing Stock	14
3.1 Energy efficiency	14
3.2 Heating	15
3.3 Manifesto commitments	16
3.4 Coronavirus recovery: "Green recovery"	16
4. Assessments of Government Progress	17
4.1 Committee on Climate Change Annual Report	17
4.2 BEIS Committee Energy Efficiency Inquiry	19

Summary

Net zero targets

The Government has legally binding targets under the *Climate Change Act 2008* to reach 'net zero' carbon emissions by 2050. Meeting this target will require a range of actions across sectors of the UK economy that are responsible for emissions. Housing is one such area as it currently responsible for around 14% of UK emissions.

Background information is available from the Library webpage on [Climate Change: an overview](#).

Policy to decarbonise homes

The [Clean Growth Strategy](#) was published in October 2017 and includes several targets to improve energy efficiency: to upgrade all fuel poor homes to Energy Performance Certificate (EPC) band C by 2030; to upgrade as many homes as possible to EPC band C by 2035 (where practical, cost effective, and affordable) and to improve business energy efficiency by 20% by 2030. There are several policies to help meet these targets.

Further developments are expected in the coming year, for example the Government is expected to publish a new heat strategy (including future heat and energy in domestic homes), while the Government's independent advisors, the Committee on Climate Change (CCC), have recently set out the range of policies needed, in its view, across several Government Departments in the near to medium term.

Retrofit policy

The [Energy Company Obligation](#) (ECO) is a requirement for energy suppliers to install energy efficiency measures in the homes of eligible vulnerable, low income, or fuel poor customers. [The Green Deal](#) (now privately funded) also supports energy efficiency and renewable technology retrofit through loans. The Government have also introduced minimum energy efficiency standards for private rented homes (with some exemptions).

The 2019 Conservative manifesto included new commitments on energy efficiency. The Government also announced further support on energy efficiency as part of the economic response to the coronavirus pandemic. This included a Green Homes Fund which will provide two thirds of the cost of energy efficiency installations up to certain limits.

New build policy

The major Government policy in this area is currently the development of the Future Homes Standard. The energy efficiency of new homes is controlled through building regulations, and a consultation on this part (part L) of the building regulations closed on 7 February 2020. It proposed a two-stage approach, with measures to achieve either a 20% or 31% reduction in carbon dioxide emissions in 2020 regulations and a 75-80% reduction in 2025. Concerns have been raised by some that policy as planned may not deliver enough improvement in building fabric efficiency due to the gains from more efficient heating. A response to the consultation, and next steps, is expected in Autumn 2020.

Comment on policy

Past Government action on energy efficiency has been criticised. For example, the [CCC in their 2020 report to Parliament](#), noted that:

Buildings saw some limited progress in the past decade, with emissions falling 14% in the period 2008-2018, or 13% after adjusting for above average temperatures.

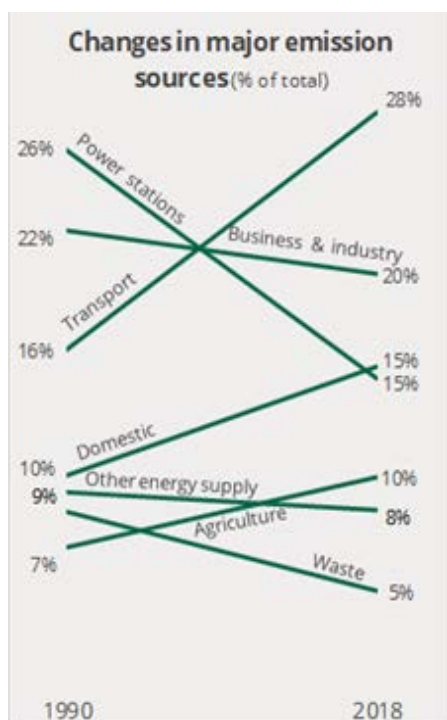
4 Housing and Net Zero

However, after policy-driven success in the first half of the decade, there has been minimal progress in recent years

Energy efficiency is a devolved matter and this briefing broadly relates to policies in England.

1. Introduction

The Government has legally binding targets under the *Climate Change Act 2008* to reach 'net zero' carbon emissions by 2050. Background information is available from the Library webpage on [Climate Change: an overview](#).



Since 1990, the [UK has reduced domestic greenhouse gas emissions](#) by 45%. However, the reduction has not been evenly spread across all sectors of the economy. More information is available from the Library insight on [Mitigating climate change: electricity and beyond](#).

As the graph shows, some sectors, such as power stations, have reduced their emissions and become relatively smaller contributors to the UK's emissions, but emissions from housing (domestic) have not fallen, and in fact has become greater relative contributors to the UK's emissions because of the falls elsewhere.

Source: Provisional Greenhouse Gas emissions (BEIS – 2018)

The Committee on Climate Change (CCC) stated in their February 2019 (before the net zero target) report on UK Housing; fit for the future:

We cannot meet our climate objectives without a major improvement in UK housing. There are 29 million homes in the UK. The UK Government is committed to building around 1.5 million new homes by 2022 - and there are major plans for new housing in every part of the UK. The quality of these existing and new homes has an important role in safeguarding people's health and wellbeing, and in addressing climate change. In this report, we assess progress in improving housing to meet our climate objectives, and make recommendations for further action.

We will not meet our targets for emissions reduction without near complete decarbonisation of the housing stock. Energy use in homes accounts for about 14% of UK greenhouse gas emissions. These emissions need to fall by at least 24% by 2030 from 1990 levels, but are currently off track. In 2017, annual temperature-adjusted emissions from buildings rose by around 1% relative to the previous year.

The housing stock is not well-adapted for the current or future climate. Around 20% of homes (4.5 million) currently overheat even in cool summers; 1.8 million people live in areas which are at significant risk of flooding; and the average daily water consumption per person across the UK is around 140 litres, above the sustainable level in a changing climate and higher than many other European countries. Cost-effective adaptation

6 Housing and Net Zero

measures are not being taken up at anywhere near the levels they can or should be.¹

The Government has housing policy for both new homes, and to retrofit existing homes. This is set out, along with comment, in the following sections.

¹ Committee on Climate Change (CCC), [UK Housing: fit for the future?](#), 21 February 2019

2. Government Policy on New Homes

Note 'Government policy' in this section mostly relates to the Conservative Governments of 2015 and 2017. The consultation on the Future Homes Standard continued under the new 2019 Conservative Government and this policy has continued.

2.1 Zero Carbon Homes

Earlier Government proposals for 'zero carbon homes' were cancelled in 2016. The Labour Government set out the original plans for zero carbon homes in their consultation document 'Building a Greener Future' in 2006. The coalition Government amended the proposals with the aim of striking a balance between zero carbon goals and the stimulation of growth in the house building industry.

The Government's intention to cancel implementation of the plans was announced in 2015 and implemented in 2016. Further information is given in the Library briefing: [Zero Carbon Homes](#), last updated May 2016.

2.2 The Clean Growth Strategy

The Government's [Clean Growth Strategy](#) (October 2017) set out the Government's main policies for reducing emissions and meeting the fourth and fifth carbon budgets.

The Strategy includes key policies and proposals for housing in the section on *Improving our Homes*, largely in relation to improving energy efficiency and rolling out low carbon heating, as follows:

Improving the energy efficiency of our homes

11. Support around £3.6 billion of investment to upgrade around a million homes through the Energy Company Obligation (ECO), and extend support for home energy efficiency improvements until 2028 at the current level of ECO funding

12. We want all fuel poor homes to be upgraded to Energy Performance Certificate (EPC) Band C by 2030 and our aspiration is for as many homes as possible to be EPC Band C by 2035 where practical, cost-effective and affordable

13. Develop a long term trajectory to improve the energy performance standards of privately rented homes, with the aim of upgrading as many as possible to EPC Band C by 2030 where practical, cost-effective and affordable

14. Consult on how social housing can meet similar standards over this period

15. Following the outcome of the independent review of Building Regulations and fire safety, and subject to its conclusions, we intend to consult on strengthening energy performance standards for new and existing homes under Building Regulations, including futureproofing new homes for low carbon heating systems

16. Offer all households the opportunity to have a smart meter to help them save energy by the end of 2020

Rolling out low carbon heating

17. Build and extend heat networks across the country, underpinned with public funding (allocated in the Spending Review 2015) out to 2021

18. Phase out the installation of high carbon fossil fuel heating in new and existing homes currently off the gas grid during the 2020s, starting with new homes

19. Improve standards on the 1.2 million new boilers installed every year in England and require installations of control devices to help people save energy

20. Invest in low carbon heating by reforming the Renewable Heat Incentive, spending £4.5 billion to support innovative low carbon heat technologies in homes and businesses between 2016 and 2021

21. Innovation: Invest around £184 million of public funds, including two new £10 million innovation programmes to develop new energy efficiency and heating technologies to enable lower cost low carbon homes

Page 77 of the report provides more detailed information on each of the policies and proposals.

2.3 Spring Statement 2019 commitments

In the then Chancellor's 2019 Spring Statement, the Government proposed to consult in 2019 on greening the gas grid and on the introduction of a Future Home Standard. The Written Statement set out:²

Greening the Gas Grid – Accelerating the decarbonisation of our gas supplies by increasing the proportion of green gas in the grid. To meet our climate targets, we need to reduce our dependence on burning natural gas to heat our homes. The government will consult on the appropriate mechanism to deliver this commitment later this year.

A press release from the Ministry of Housing, Communities and Local Government set out the following on [low carbon homes](#), including the announcement of a Future Homes Standard:

Emissions from heating existing homes is the single largest contributing factor to the UK's carbon footprint.

We recognise that combating climate change requires the construction of new build homes to feature more sustainable and efficient ways of heating, alongside other energy saving measures.

In the Spring Statement 2019, we have committed to adopting the Future Homes Standard by 2025 so new homes built are built with the latest green technology - driving down energy bills and reduce the impact on our precious environment.

The Future Homes Standard will build on the Prime Minister's Clean Growth Grand Challenge mission to at least halve the energy use of new build property by 2030, and halve the cost of

² [HCWS1407 13 March 2019](#)

renovating existing buildings to a similar standard as new buildings, while increasing quality and safety.

Details of the new standard will be consulted on during 2019.

A parliamentary question from April 2019 provided further detail on the impact of the proposed Future Homes Standard and a proposed review of Building Regulations part L, which cover energy efficiency:

The Future Homes Standard will require all new build homes to have low carbon heating. Cooking appliances are not controlled under the Building Regulations, however, we expect that many developers will choose not to install new gas connections in developments adopting the Future Homes Standard. There are a range of alternatives, including modern electric and induction hobs, which are cleaner and safer to use than gas, cheaper to install and maintain, and better for the environment.

The Future Homes Standard is about building homes that are affordable to buy, affordable to run, and help to meet our climate change commitments. We will set out further details as part of our 2019 consultation on the energy efficiency requirements of the Building Regulations.³

2.4 Future Homes Standard

Building regulations

The energy efficiency of new homes is controlled through Building Regulations, and changes to these would be used to implement the Government's current policy of the 'Future Homes Standard'. Building Regulations do currently have energy efficiency requirements.

Building Regulations

Building work in England and Wales is governed by Building Regulations, under the [Building Act 1984](#) and the [Building Regulations 2010](#). The regulations are aimed at securing the health, safety, welfare and convenience of people using or affected by a building, and of conserving water and energy and reducing waste. The Building Regulations represent minimum standards.

The regulations are supported by [Approved Documents](#) which set out detailed practical guidance on compliance. Building regulations only apply to new construction (whether completely new or an alteration subject to building control), and not existing unaltered buildings.

Work is 'approved' through a monitoring and inspection process. Approval can come directly from local authority run building control services, or through private approved inspectors (PAIs). The role of building control inspectors is to ensure that the technical standards are met - i.e. they perform a compliance role. The inspectors are not responsible for monitoring build quality. A local authority has a duty to ensure that [building regulations](#) are being complied within its area.

Future standards for housing

Consultation on the new [Future Homes Standard](#) closed on 7 February 2020. The consultation started under the last Government

³ [HL 15084 4 April 2019](#)

on 1 October 2019, and the closing date was extended to 7 February 2020 under the current Government.

It related to changing building regulations on energy efficiency in the future, coming into force in two stages in 2020 and 2025. The consultation suggests a two-stage approach: measures to achieve either a 20% or 31% reduction in carbon dioxide emissions in the 2020 regulations compared to the 2013 rules; and a 75-80% reduction is the aim for 2025. The document promises further consultations on non-domestic buildings and for when work is undertaken on existing housing.

PQs in July 2020 indicated that the Government was “carefully considering the responses received” and that a response would be published “in due course”.⁴

The consultation also comments on how the proposals compare to the on-site requirements in the previously proposed zero carbon homes standard:⁵

Both options [for 2020] outlined deliver a greater improvement in carbon dioxide emissions than the 19% improvement on the 2013 Part L requirements which was proposed as the minimum on-site energy efficiency requirement of the former Zero Carbon Homes policy. We would expect both the proposed 2020 uplift options to lead to fabric standards that are better than the Fabric Energy Efficiency Standard (FEES) recommended by the Zero Carbon Hub.

A Parliamentary Question (on 21 January 2020) outlined the expected outcomes from the Future Homes Standard ([PQ2615](#)):

To ask the Secretary of State for Housing, Communities and Local Government, whether he has made an assessment of the potential effect of the Future Homes Standard on the UK’s commitment to achieve net zero carbon emissions by 2050.

Answered by: Esther McVey

The Government has committed to introduce a Future Homes Standard by 2025. This means new homes will be future proofed, with low carbon heating and lower energy use through high levels of energy efficiency. We propose that new homes built to the Future Homes Standard from 2025 should have carbon dioxide emissions up to 80 per cent lower than those built to current building regulations standards.

We are currently consulting on a meaningful and achievable increase to the energy efficiency standards for new homes to be introduced through the Building Regulations in 2020, as a stepping stone to this commitment. The preferred option is to set a standard that should result in a 31 per cent reduction in CO₂ emissions. The consultation is open until 7 February and we welcome further evidence.

1. Our consultation includes estimates as described above, and also includes a ‘roadmap’ that provides an indicative

⁴ [PQ 72766 21 July 2020](#)

⁵ MHCLG, [The Future Homes Standard 2019 Consultation on changes to Part L \(conservation of fuel and power\) and Part F \(ventilation\) of the Building Regulations for new dwellings](#), October 2019, para 2.5

vision of how the 2025 standards will be achieved. We will undertake further modelling and analysis as we prepare the detail of the changes that will be needed in 2025.

2. We are consulting on proposed minimum standards for carbon dioxide emissions, primary energy use, and building fabric. We will issue a response to the consultation later this year after analysing responses received.
3. Requiring householders to disclose the energy use of their homes once occupied sits outside the scope of the Building Regulations and its enforcement regime. We have not proposed a post-occupancy monitoring system as part of the Future Homes Standard consultation.
4. To consider embodied carbon at a building-level would require a standardised method of calculation supported by a robust evidence base and underpinned by widely adopted product standards. There is currently no widely agreed standardised method for certifying the embodied carbon of building products, so it was not included the Future Homes Standard consultation.
5. The Future Homes Standard consultation is considering local planning authority powers in respect of energy efficiency. We will issue a response to the consultation later this year after analysing responses received.

When would the regulations come into force?

On when the regulations would apply, the [Future Homes Standard consultation](#) notes the first 2020 change would come into force in 'mid/late 2020'. When changes to building regulations take place transitional arrangements are in place. As the consultation explains:

7.1 Whenever changes to the Building Regulations or approved standards take place, transitional arrangements apply. When a developer submits a building notice or full plans application to the local authority, the Building Regulations standards in place at the time of the application will apply, so long as work under the building notice or full plans application has already started or starts within a specified period of the notice being given.

However the [BEIS Committee](#) recently highlighted a 'loophole' where the regulations can change multiple times but these are not be applied to long standing permissions (para 132). [Chapter 7 of the Future Homes Standard consultation](#) deals with transitional arrangements and this concern. The consultation notes the issue around transitional arrangements, and proposes that where work has not started on an approved specific building within a 'reasonable period', the new energy efficiency requirements would apply. This would be a change to the current system, and the consultation asks about this approach, what a 'reasonable period' would be, and whether stricter arrangements should be in place for the 2025 proposed uplift in standards (and these are detailed in the document, as are the specific proposed requirements for 2020).

The Government have since suggested the 'roadmap' to 2025 may be reviewed to ensure movement to greater efficiency in as shorter time as possible (see below on *Planning for the Future*).

Comment on the proposals

The consultation was subject to comment before and after it closed. For example, an article in *The Guardian* noted criticism of the proposed changes by a group of engineers and architects ("[Proposed changes to regulations 'will make buildings less energy efficient'](#) ", 24 January 2020). This criticism was broadly based around concerns raised by the [London Energy Transformation Initiative \(LETI\)](#), a "network of over 1000 built environment professionals that are working together to put the UK on the path to a zero carbon future" and others. Responses to the consultation have also been published by groups such as [RIBA](#).

Some of the concerns raised with the consultation include:

- Plans to remove the 'Fabric Efficiency Standard' from regulations means that the targets for 2020 could be met through more energy efficient heating and water systems, and some indicate this may even see a reduction in the energy efficiency measures used in the building fabric compared to previous measures;
- That proposals around energy efficiency should include the measure of operational energy (kWh/m²/yr) as a way of demonstrating energy use intensity (EUI), and that this should be measured after occupation;
- The proposed restriction (para 2.23 onwards) on local authorities from setting higher energy efficiency requirements. This is currently allowed, although a 2015 Written Statement set an expectation that a defined limit would be used. The ability to restrict higher rates is in an uncommenced part of the *Deregulation Act 2015*.
- That the time taken to move to higher standards is too long.

The Committee on Climate Change wrote to the Secretary of State on 18 February 2020, welcoming the Future Homes Standard but noting that the proposals "...do not go far enough to reduce carbon emissions, or address the growing risks of overheating, flooding and water stress – key climate risks facing the UK. Stronger standards will serve future occupants better." They raise a number of specific points, including:

- Setting the requirements now and legislating ahead of 2024, and encouraging the date of implementation to be brought forward;
- Concern that without a replacement for the fabric energy efficiency standard, energy bills could rise;
- Noting that onsite renewables like solar PV could act as an 'offset' to continued fossil fuel use;
- That local authorities should be able to set higher targets;
- That the Standard should include a framework for assessing the significant emissions in buildings materials;
- That unless fabric efficiency, overheating and ventilation are considered jointly when retrofitting or building new homes, there is a high risk that poor ventilation and airtightness will lead to overheating and poor indoor air quality.

The CCC also raised broader concerns around compliance and measuring performance, as summarised on their website:⁶

Fundamental issues around compliance and performance need tackling. This means first driving a shift towards monitoring actual energy consumption and second, broadening the current buildings safety work programme beyond its current focus on fire safety. This must also build on proposals for tightening planning loopholes – making sure that homes must comply with the latest standards unless they are substantially completed – along with further documentation and widespread testing and adequate funding for Building Control Bodies.

Planning for the Future

In July 2020, the Government published a planning white paper [Planning for the Future](#). This set out wide ranging changes to the planning system. The Future Homes Standard was mentioned and some insight into the Government's thinking was given, but no new proposals on energy efficiency were made. It noted a response to the consultation was expected in the Autumn, and suggested the planning changes would allow for the redeployment of local authority resources to greater enforcement of planning and building regulations (including energy efficiency). On the [Future Homes Standard](#) it says:

...We welcome the Committee on Climate Change's response to the consultation and we have considered the points they raised. We will respond to the Future Homes Standard consultation in full in the autumn. As part of this, we intend to review the roadmap to the Future Homes Standard to ensure that implementation takes place to the shortest possible timeline. Our ambition is that homes built under our new planning system will not need retrofitting in the future. To work towards ensuring that all new homes are fit for a zero carbon future we will also explore options for the future of energy efficiency standards, beyond 2025.

All levels of government have a role to play in meeting our net zero goal, and Local Authorities are rising to this challenge. Local Planning Authorities, as well as central government, should be accountable for the actions that they are taking, and the consultation response will look to clarify the role that they can play in setting energy efficiency standards for new build developments.

We will also want to ensure that high standards for the design, environmental performance and safety of new and refurbished buildings are monitored and enforced. As local authorities are freed from many planning obligations through our reforms, they will be able to reassign resources and focus more fully on enforcement. Ensuring that planning standards and building regulations are met, whether for new homes or for retrofitting old homes, will help to ensure that we deliver homes that are fit for the future and cheaper to run.

⁶ Committee on Climate Change, [Letter: Future Homes Standard and proposals for tightening Part L in 2020](#), 18 February 2020

3. Retrofitting and the Wider Housing Stock

3.1 Energy efficiency

Successive Governments have supported schemes to upgrade the energy efficiency of existing homes by retrofitting them with new insulation or heating systems. The current policies include:

- **ECO:** The focus of the Energy Company Obligation (ECO), is on supporting low income, vulnerable, and fuel poor homes with energy efficiency. Further information is available from the Library briefing paper on [ECO](#), and information on the Government's support for fuel poor homes is available in the Library briefing paper on [Fuel Poverty](#). The ECO scheme, like most other energy schemes, is paid for through a levy on consumer electricity bills.
- **Green Deal:** The coalition Government launched a Green Deal scheme to incentivise and help fund energy efficiency and renewable energy technologies for homes. While the Government [stopped funding](#) the Green Deal in 2015, citing low uptake, loans may still be available under the Green Deal framework through [private providers](#).
- **Rented sector regulations:** The Government have introduced minimum energy efficiency standards for private rented homes. The [Energy Efficiency \(Private Rented Property\) \(England and Wales\) Regulations 2015](#) require rented properties to be a minimum of EPC Band E. There are some exemptions to the regulations, such as if the necessary improvement measures cost the landlord more than £3,500.
- **Green Homes Grant:** as part of the Government response to the economic impacts of the coronavirus, new support for all households was announced. The [grant](#) offers two thirds of the cost of energy efficiency installations, to a cost of £5,000 for all households, and £10,000 for low-income households.

None of these schemes have mandatory targets for energy efficiency of a non-rented property, or for mandatory changes to heating systems.

Energy Efficiency is a devolved area of responsibility and policy in relation to England is covered here.

A parliamentary question in July 2020 asked about retrofitting existing homes. The Government outlined the expected next steps, including a forthcoming 'Heat and Buildings Strategy':⁷

The Government has a number of policies and proposals to improve the energy performance of buildings, for example:

- In his Summer Economic Update, my Rt. Hon. Friend Mr Chancellor of the Exchequer announced a £2bn Green Home Grant scheme that will support homeowners and landlords in England to improve the energy efficiency of their properties, reducing energy bills and carbon

⁷ [HL 6292 14 July 2020](#)

emissions, and supporting a green economic recovery. The funding will be spent on paying for accredited tradespeople to install a range of measures, for example insulation, to improve the energy performance of their homes. Further detail on the range of measures will be announced in the coming days, before the full launch.

- The Energy Company Obligation (ECO), which installs energy efficiency measures is funded at £640 million per year, is now entirely focused on providing support to low income, vulnerable and fuel poor households.
- The Private Rented Sector Minimum standard regulations introduced on 1 April 2018 will improve the energy performance of rented properties. The regulations require landlords of domestic and non-domestic rental properties to bring their properties to EPC Band E or above. We recently consulted on raising the minimum energy standards for non-domestic privately rented properties to meet a preferred target of EPC B by 2030, and plan to publish the Government Response later this year. We will consult on tightening the minimum energy standards for domestic privately rented properties in due course.
- Public sector organisations can access the funding for decarbonisation projects, including certain retrofits through the Public Sector Energy Efficiency Loan Scheme. The capital pot for England stands £385 million by the end of 2020/21.
- The Government is planning to publish a Heat and Buildings Strategy in due course, which will set out the immediate actions we will take for reducing emissions from buildings. These actions include the deployment of energy efficiency measures and low carbon heating as part of an ambitious programme of work required to enable key strategic decisions on how we achieve the mass transition to low-carbon heat and set us on a path to decarbonising all homes and buildings.

3.2 Heating

The Committee on Climate Change have also said that the way homes are heated will need to be decarbonised to meet the [UK's 2050 net-zero decarbonisation target](#).⁸

In addition to energy efficiency, there are various options for decarbonising the heat supplied to existing homes, such as heat pumps, electric heating, district heat networks, and gas grid alternatives such as biogas and hydrogen.⁹

Some alternative heating systems are already supported by the Government's Renewable Heat Incentive Scheme, which provides payments for generators of renewable heat. Background information is available in [the Library briefing paper on the RHI \(2017\)](#). Heat pumps and solar thermal will also be included in the new Green Homes Grant. The Government also support alternative heat technology development.

⁸ Committee on Climate Change, [Net Zero. The UK's contribution to stopping global warming, May 2019](#), Page 26

⁹ POST, [Decarbonising the Gas Network](#), 15 November 2017

More information is available from the Government webpage on [Heat in Buildings](#).

3.3 Manifesto commitments

The [Conservative Party's 2019 Manifesto](#) pledged to invest £9.2bn on improving energy efficiency in domestic and public buildings; including £3.8bn on a Social Housing Decarbonisation Fund and £2.5bn on a new Home Upgrade Grant Scheme in fuel poor homes.

While the policy was not mentioned in the Budget 2020, the Government is investing in energy efficiency through funding for [innovation in new technologies](#).

3.4 Coronavirus recovery: "Green recovery"

In July 2020, as part of the [Government's "green recovery"](#) from the coronavirus pandemic, a £2 billion [Green Homes Grant](#) was announced.

Available from September 2020, the grant covers two thirds of the cost of energy efficiency installations up to a value of £5000 in all households or £10,000 in low income households.

Further support for energy efficiency in public sector buildings and social housing was also announced.

4. Assessments of Government Progress

Two recent reports to Parliament have assessed the Government's work in this area and highlighted priorities for the future.

4.1 Committee on Climate Change Annual Report

The [Committee on Climate Change](#) (CCC) is an independent statutory body set up to advise the Government on climate change. On 25 June 2020, the CCC published its annual assessment of UK progress in reducing greenhouse gas emissions: [2020 Progress Report to Parliament](#). In addition to commentary on the COVID-19 pandemic, the report stated that more policy was needed to meet the net zero target:

It is 12 months since Net Zero became law, requiring the UK to reduce net emissions of greenhouse gases to zero by 2050. Initial steps towards a net-zero policy package have been taken, but this was not the year of policy progress that the Committee called for in 2019.

On buildings, the progress report stated:¹⁰

Buildings saw some limited progress in the past decade, with emissions falling 14% in the period 2008-2018, or 13% after adjusting for above average temperatures. However, after policy-driven success in the first half of the decade, there has been minimal progress in recent years:

- The majority of this decrease occurred over the period 2008-2015, when emissions fell 17%. This was largely driven by strong domestic standards phasing out non-condensing boilers, along with the supplier obligations targeting home energy efficiency which ran from 2008-2012 (CERT and CESP).
- Above average temperatures over the period also contributed to the decrease, with 9 out of the 12 past years recording temperatures above the long-term trend. Accounting for this, emissions fell only 13% over the period, with negligible progress since 2015.
- Strong standards at EU-level led to greater appliance efficiencies such as household white goods. Over the period 2008-2018, temperature-adjusted average electricity use fell 17%, primarily driven by the EU Ecodesign directive.

This means that the bulk of the challenge to decarbonise buildings remains, with the greatest challenge on decarbonising heating and hot water barely yet addressed.

- **Low-carbon heat in existing homes.** The major challenge for the buildings sector remains the need to shift homes away from natural gas to low-carbon heat solutions. The 2010s have seen very little progress in this area. Heat

¹⁰ Committee on Climate Change, [2020 Progress Report to Parliament](#), June 2020, p77-8

pumps are the heating solution in fewer than 200,000 homes. Public awareness of the need to move away from natural gas is limited, a recent survey highlighted that 48% of the population were not aware that gas boilers were a source of CO₂ emissions.

- **Energy efficiency in existing homes.** The major challenge of widespread building renovation and retrofit to increase building heat efficiency has been largely unaddressed. The replacement of the supplier obligations with the Renewable Heat Incentive and the Green Deal has resulted in an order of magnitude fall in the rate of loft and wall insulation.
- **New homes.** The scrapping of the 2016 Zero Carbon Homes standard has meant that energy efficiency progress seen in existing buildings has not been replicated in new buildings. There are now more homes requiring zero-carbon retrofit than there were when the Climate Change Act was passed, with 1.8 million additional homes since 2007 now needing to be fitted with low-carbon heat

A set of recommendations for buildings is given on pages 176-9. The Executive Summary states that for buildings:¹¹

Buildings (18% of 2019 emissions): policy needs a step change in ambition and delivery this year. It can play a key role in supporting the economic recovery and creating jobs and training opportunities across the UK. Efforts to reduce emissions must be integrated with efforts to improve the safety and resilience of buildings (e.g. to fire, flooding and overheating), indoor air quality and efforts to tackle fuel poverty. The housing ministry (MHCLG) and the Treasury have key roles alongside the energy department (BEIS).

– The Buildings and Heat Strategy, planned for later in the year, must set a clear direction, backed by standards, towards phasing out installation of new gas boilers by 2035 at the latest and making homes climate-resilient.

– It should be supported by tax or levy changes that favour low-carbon heating over fossil fuels and funding for capital grants (including for hybrid heat pumps) at a much larger scale than existing plans.

– A set of enabling measures is needed to build skills and confidence, to improve the consumer experience and to strengthen monitoring and compliance.

– Local authorities and network operators should be given key roles in driving early progress and planning, backed up by the necessary resources.

– Commercial buildings must also be addressed and the public sector should take a lead. Embedded emissions, which include emissions from the construction process and the materials used in buildings, must also be tackled.

¹¹ Committee on Climate Change, [2020 Progress Report to Parliament](#), June 2020, p77-8 and pages 176-9

4.2 BEIS Committee Energy Efficiency Inquiry

On 12 July 2019 the [Business, Energy and Industrial Strategy Committee published their report on Energy Efficiency](#). In the report, the Committee criticised the current level of public investment in energy efficiency recommending that BEIS make the case for greater public investment if needed, and noted that it should be considered a national infrastructure priority. It also notes a drop in insulation rates in recent years and lower funding per household to support energy efficiency in England compared to the other devolved nations.¹²

The report also highlighted the previous zero carbon homes policy, and criticised the Government for scrapping the policy, arguing that it has resulted in additional homes that are not as efficient as possible, whilst at the same time boosting housebuilder profits.¹³

On energy efficiency retrofits, the Committee concluded:

59. The Energy Company Obligation (ECO) has value in delivering low-cost measures, but it should not operate in isolation. ECO is underfunded, and those most in need may be neglected under current targeting, or unable to access ECO as the top-up funds are prohibitively high. To ensure the Government's fuel poverty ambitions are met, additional schemes to complement ECO will be needed.

On the Future Homes Standard the report queried the 2025 implementation:

123. However, we are disappointed that we may have to wait until 2025 for homes to be built with "world-leading levels of efficiency" when the UK's two largest housebuilders confirmed they do not require a long lead in time to deliver higher standards. Barratt and Persimmon said that higher standards could viably be delivered within 18 months. But with profit margins and shareholder returns the overriding priority for the majority of large housebuilders, they will not upgrade their standards without being required to do so by regulation. We recognise that there are some more progressive housebuilders who have indicated willingness to deliver higher standards at scale, but there is no commercial case to do so without a level playing field among all developers.

On the Future Homes Standard it concluded:

126. We welcome the announcement of a Future Homes Standard. Any attempts by housebuilders to water down the standard should be blocked by the Government. The only barrier precluding housebuilders developing to higher standards before 2025 is a preoccupation with profit margins and shareholder returns. Despite receiving billions in taxpayer funds, most housebuilders will only raise the energy standards of their stock if forced to do so. Progressive housebuilders who want to go further are being held back by the laggards who actively lobby the Government to boost their profits, rather than help meet carbon reduction obligations.

¹² BEIS Committee, [Energy efficiency: building towards net zero](#), 9 July 2019, para 13-47

¹³ Para 120-1

127. We recommend that the Government legislates for the Future Homes Standard as soon as practically possible—and by 2022 at the very latest—to guarantee that no more homes by 2025 are built that need to be retrofitted. We recommend that the Government considers policy drivers at its disposal to drive early uptake. At a minimum, the Government should put in place a compulsory 'learning period' from 2022 in a subset of properties in preparation for the full-scale deployment. The Government should oblige bigger housebuilders to undertake regional demonstration projects to show how they will achieve the standard.

The Committee also raised concerns with the way building regulations are applied, with standards often being based on when planning permission was granted rather than when the dwelling was built, while also raising concerns with how EPCs are assessed:

132. It is unacceptable that new developments are not always built to the latest building standards. The classification of what counts as a commenced building project is too lax. This provides developers with a loophole that allows them to claim a project is too far advanced to meet changes to Building Regulations. As a result, a substantial number of new homes are being built to outdated standards. If loopholes are not closed it will almost certainly be much later than 2025 before we actually see houses with "world leading" levels of energy efficiency built. The Government cannot continue pandering to housebuilders' claims that delivering the latest standards would stall development. We recommend that the Government urgently closes those existing loopholes that allow homes to be built which do not meet the current minimum standards for new dwellings. The Government must ensure that the most recent building standards are complied with in all but exceptional circumstances.

133. Those who purchase homes that are built to outdated standards should not be provided with EPCs that are based on outdated modelling. This typically results in their energy efficiency rating being overstated, so when the home owner goes to renew their EPC they will find that they have been misled. We recommend that the Government requires that the EPC provided to the home purchaser must be the most current version.

The full set of conclusions and recommendations are available on [the Committee's webpage](#).

In [its response](#), the Government stated that it agreed "wholeheartedly that energy efficiency is a fundamental pillar of the approach to reaching net zero emissions, addressing fuel poverty and cutting energy bills". [The response](#) set out the various measures the Government had taken at the time of response (October 2019) around energy efficiency.

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