

## Written evidence submitted by the Chartered Institute of Building

### Summary

1. The Chartered Institute of Building (CIOB) is the world's largest and most influential professional body for construction management and leadership. We have a Royal Charter to promote the science and practice of building and construction for the benefit of society, and we have been doing that since 1834.
2. The CIOB is a member of the National Home Improvement Council (NHIC), an advocacy body for home modernisation in line with energy efficiency and carbon reduction targets. The Council plays an important role in raising the standard and quality of the home improvement industry.
3. Under the Climate Change Act 2008, the UK is committed to green gas emission reductions of 34% by 2020. Approximately 45% of the UK's total carbon emissions are a result of energy consumption in buildings. Eurostat data indicates the UK has one of the oldest housing stocks in Europe, with the smallest proportion of homes built after 1970 and the second highest proportion built before 1919.
4. We welcome the Government's recognition that buildings must be constructed to high standards of energy efficiency and that the regime for regulating the energy performance of buildings is robust, if we are to meet our obligation to bring greenhouse gas emissions to net zero by 2050.
5. Achieving an ambitious net zero target will require coordinated, long-term action. Isolated activities and private market initiatives alone will not be enough to address the scale of the challenge, and a variety of mechanisms will be needed to bring about the culture shift to drive a greener built environment.
6. The deadline for this inquiry coincides with the Chancellor's Summer Statement which outlined financial support for retrofit measures, as well as major regulatory review of the construction sector through the Building Safety Programme.<sup>1</sup> Learning from past mistakes, it is vital that all energy efficiency work is carried out within a rigorous regulatory framework, in line with applicable standards and to the highest quality, if these interventions are to leave a positive legacy.
7. We recommend that the Government:
  - Implement a long-term national retrofit strategy as a core element of its Industrial Strategy. This will provide a clear direction of travel for the construction industry and the certainty that businesses need to create stable, green jobs beyond 2021.
  - Revisit the *Each Home Counts* review and implement the findings outlined in its report. In particular, we recommend the establishment of a quality mark for all energy efficiency and renewable energy measures and companies operating in this sector.
  - Ensure that TrustMark is adequately resourced to oversee and enforce quality control for all firms participating in the Green Homes Grant scheme.

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<sup>1</sup>Ministry of Housing, Communities and Local Government, [Building Safety Programme](#), 20 July 2017

- Continue to promote awareness of TrustMark and its 'Work Safe – Safe Work' campaign to build consumer trust in the construction industry.

**How effective is the EPC rating at measuring energy efficiency? Are there any alternative methodologies that could be used?**

8. Energy Performance Certificates (EPC), and their accompanying assessment methodologies are well established across EU Member States as a standardised method for summarising the energy efficiency of individual buildings. In the UK, EPCs form the basis of the Private Rented Sector Minimum Energy Efficiency Standards (MEES) and are key to the Government's EPC C 2035 and fuel poverty targets.
9. EPCs are produced by Domestic Energy Assessors (DEAs) who visit properties and carry out a non-invasive visual inspection to determine which property characteristics might affect energy efficiency, for example: areas of heat loss, insulation features, heating systems, and methods of construction. This is recorded alongside the floor area of the property, which are both used to calculate the EPC score, resulting in a rating and banding between A and G (where A indicates high energy efficiency and lower running costs and G indicates poor energy efficiency and higher running costs). The calculation of the energy ratings for existing dwellings is based on the Reduced Data Standard Assessment Procedure (RdSAP), a simplified version of the Standard Assessment Procedure (SAP) which is used for new dwellings.
10. There have long been concerns about the accuracy and consistency of EPC ratings. A survey of 16-member companies conducted by the Better Buildings Partnership found that only 17% of respondents believed that EPCs are useful in identifying energy efficiency upgrades.<sup>2</sup> This calls into question the suitability of EPCs as a mechanism for incentivising energy efficiency measures in homes, ensuring compliance with MEES regulations and informing consumers.
11. Many of these concerns derive from the interpretation of the values. The wide use of default values and poor assessment practice have all contributed to significant inconsistencies and variations in assessments.
12. The SAP and RdSAP methods are normative calculations and assume a standard occupancy. Where there are problems with the assumptions of DEAs in relation to property characteristics, estimates are likely to be inaccurate. There is evidence of discrepancy in the rating of individual properties where assessments are conducted by different assessors, and of difficulty comparing assessments that have been made at different times due to the changing assumptions of assessors and a lack of transparency in the data.<sup>3</sup>
13. Mystery shopping research conducted in 2014 by the Department of Energy and Climate Change found that there was significant variation in the EPC ratings generated from multiple assessments conducted at individual properties, with ratings spanning at least two EPC bands for almost two thirds of the property analysed.<sup>4</sup>
14. Imprecise assessment of property size is a significant contributor to inaccurate EPC ratings. Research by Spec suggests that property area is one of the largest

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<sup>2</sup>Better Buildings Partnership, [Energy Performance Certificates for Buildings – Call for Evidence](#), October 2018

<sup>3</sup>Committee on Climate Change, [UK housing: Fit for the future?](#), February 2019

<sup>4</sup>Department of Energy and Climate Change, [Green Deal Assessment Mystery Shopping Research](#), December 2014

contributing factors to an EPC rating, meaning that accurate size assessment is paramount to provide reliable, trustworthy ratings to everyone involved in property transactions.<sup>5</sup> The same research finds that 1 in 4 EPC ratings are mis-measured by at least 10% of their size, and of those, 1 in 4 are out by at least 100 square feet.

15. This has potentially serious consequences for the validity of EPCs. Properties being marketed with inaccurate EPCs are a liability to property professionals and owners, with tens of thousands of landlords unwittingly breaking the law and at risk of being fined. Consumers are also less likely to have clarity about the energy efficiency of their homes, and we are concerned that many will pursue expensive and potentially ineffective retrofit measures to compensate for poor ratings.
16. EPC assessment should be based on real-world data rather than the assumed characteristics of properties by individual assessors. We believe that there is an opportunity to use smart meters and other sources of data, including 3D modelling and thermal heat mapping, to feed into the modelling process and improve its accuracy. We therefore welcome the recent plans set out by the Department for Business, Energy and Industrial Strategy for the implementation of targets to continue the installation of smart meters in households across the country.

### **How can the Government frame a COVID-19 stimulus strategy around improved energy efficiency of homes?**

17. With UK adults spending increasing amounts of time indoors and lockdown measures changing modern working practices, the energy efficiency of homes will come into focus as more people spend more time at home. There is an increasing body of evidence demonstrating the correlation between investment in better buildings and positive economic and health outcomes.
18. Conversely, poor housing incurs significant health-related costs, with the Building Research Establishment estimating that a £10bn investment in improving some of England's 3.5 million worst homes would save the NHS £1.4 billion in first year treatment costs alone.<sup>6</sup> Improving the quality and energy efficiency of existing homes has wide ranging holistic benefits for their occupants, including the removal of health hazards, reduced utility bills, and support for their mental health and wellbeing.
19. As pointed out by the All-Party Parliamentary Group for Health Homes and Buildings, white paper, *Building our Future: Laying the Foundations for Health Homes and Buildings*, the economic cost is only half the story. The true price lies in human misery and lives lost. In the winter of 2014/15, an estimated 43,900 excess winter deaths occurred in England and Wales,<sup>7</sup> with the impact of cold housing specifically estimated to cause a fifth of these excess deaths — more than road accidents, alcohol or drug abuse.
20. The CIOB's report, *The Real Face of Construction 2020*, finds that the construction industry accounts for around 6% of the UK's total economic output and provides jobs for 2.3 million people, or 7.1% of the UK's total employment. These figures predominantly account for on-site construction, and with the value added by architects, engineers, surveyors and other professionals working within the built environment, the contribution of the sector is closer to 15.3% of GDP.<sup>8</sup>

<sup>5</sup>Spec, [Impacts of Inaccurate Area Measurements on EPC Rating](#), February 2019

<sup>6</sup>Building Research Establishment, [The full cost of poor housing](#), May 2016

<sup>7</sup>Academic-Practitioner Partnership, Housing and Communities Research Group, School of Social Policy University of Birmingham, [Good Housing: Better Health](#), July 2016

<sup>8</sup>Chartered Institute of Building, [The Real Face of Construction 2020](#), February 2020

21. The construction industry is ideally placed to help to kick start the economy following the Covid-19 pandemic, and thought must be given to how it can facilitate a clean, fair and sustainable recovery. Previously, there has been a tendency for Government to focus on large-scale civil engineering projects which garner public attention, but do not support high levels of labour or a stable pipeline of work for the industry. In planning future construction, we recommend that the Government pull forward long-term socially valuable projects that are labour intensive.
22. In developing post Covid-19 recovery strategies, we believe that upgrading the energy efficiency of existing homes through repair, maintenance and improvement (RMI) work is an example of a socially valuable project that will support the economy, while providing an unprecedented opportunity to address the health and wellbeing of residents and make progress on the decarbonisation of existing homes as a key strategy to meet our net zero obligations. This type of work is labour intensive and grounded within local supply chains, making it an ideal project to maximise employment within the construction sector, support regional growth and provide opportunities for training and retraining in low-carbon construction skills.
23. Starting this work early will support employment when the workloads are low, and as the economy improves and workloads increase to pre-lockdown levels, more labour-intensive work can be eased, and greater progress made on less labour-intensive work. While we recognise that this is a complex task, we believe it would greatly reduce strain on labour supply. Retrofitting to improve energy efficiency will also reduce consumer utility bills, thus freeing up disposable income to be spent within local economies.

#### **What policy and/or regulation could support it?**

24. We welcome the Chancellor's recent announcement of a £2 billion Green Homes Grant,<sup>9</sup> which provides up to £5,000 for each household to spend on energy-saving home improvements in 2020-21. While this is a welcome first step, it will need to be supported with long-term effort, monitoring and oversight in order to provide the best solutions for maintaining and improving our built environment.
25. We urge the Government to build on this progress and implement a long-term national retrofit strategy as a core element of its Industrial Strategy. This will provide a clear direction of travel for the construction industry and the certainty that businesses need to create stable, green jobs beyond 2021.
26. We believe that a considered approach must be taken to the Green Homes Grant scheme, to ensure that all home improvements are carried out within a rigorous regulatory framework and constructed in line with applicable standards and to the highest quality. Those carrying out improvement work must have the appropriate skills and qualifications necessary to do so properly. Consumers must be made fully aware of the suitability of each type of measure for their home so that they can make informed choices, and they must have access to appropriate redress when things go wrong.
27. It is important that we learn from past mistakes. The lessons of Grenfell spread far beyond the cladding materials used. Further afield, in Australia, the Royal Commission into Home Insulation report details the failures of a home insulation programme which was implemented in 2009 as part of a stimulus package following

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<sup>9</sup>HM Treasury, [A Plan for Jobs](#), July 2020

the Global Financial Crisis. The programme was halted after the deaths of four installers and hundreds of house fires, and the Commission's findings detail significant failings in the design and implementation of the programme, including the speed of rollout and a failure to identify the risk to installers.<sup>10</sup>

28. The one-year timeframe for the Green Homes Grant scheme is brief, and in an industry with well-documented shortages in professional, technical and trade-level skills, the risk of poor-quality work and scams is high. We welcome the Government's announcement of a Construction Talent Retention Scheme, as well as the use of the Green Homes Grant scheme to bolster employment within the sector, however it is important that this is accompanied by appropriate training and education for workers.
29. Quality, performance, and value for money should be tracked closely, if the intervention is to leave a positive legacy. Therefore, all energy efficiency work must be compliant with the recognised standard (PAS 2035). Firms must be quality endorsed via TrustMark and consideration needs to be given to providing industry warranties. A whole house approach should be taken to ensure that energy efficiency measures are complementary and effective, and a rigorous quality control process implemented using real-world data.
30. It is important to recognise that the variation inherent in retrofitting energy efficiency measures and in home-improvements more widely suggest that large amounts of the work will be non-standard. As the Sustainable Traditional Buildings Alliance notes, a "one size fits all approach" will not work, and poorly considered retrofit measures can result in costly unintended consequences, particularly related to moisture retention and overheating.<sup>11</sup>
31. Undertaking similar projects at scale could increase repetition and standardisation of products and processes. This would increase productivity by increasing learning curve efficiencies, cutting waste, boosting purchasing power and reducing the mistakes made. However, non-standard work will need close oversight and good management if failures are to be avoided.
32. In 2015, the Government commissioned Dr Peter Bonfield to conduct an Independent Review into consumer advice, protection, standards and enforcement for energy efficiency in existing homes. The subsequent report, *Each Home Counts*,<sup>12</sup> made 27 recommendations and sets out a new quality and standards framework for all those operating in the sector. However, progress since the review has been slow.
33. We recommend that the Government revisit the report and implement its findings. We especially support the Review's calls for the establishment of a quality mark — comprised of a consumer charter, code of conduct and codes of practice — for all energy efficiency and renewable energy measures and companies operating in this sector. It is also vital that Trustmark is adequately resourced if it is to ensure that all firms participating in the scheme meet the standards required.

### **What additional policy interventions are needed for social housing, leaseholders, landlords and tenants?**

<sup>10</sup>ABC, [Royal Commission into Home Insulation Program report details 'litany of failures', PM Tony Abbott says](#), September 2014

<sup>11</sup>BRE, [Solid wall heat losses and the potential for energy saving](#), May 2014

<sup>12</sup>Dr Peter Bonfield, [Each Home Counts: An Independent Review of Consumer Advice, Protection, Standards and Enforcement for Energy Efficiency and Renewable Energy](#), December 2016

34. Covid-19 has had a detrimental impact on consumer confidence in domestic RMI work. In a survey of 596 home improvement professionals early in the pandemic, 85% stated an increase in consumer detriment.<sup>13</sup> ONS data from April 2020 indicates activity in the private RMI sector was 61.8% lower than the same time one year ago.
35. Although this fall in consumer confidence and output aligns with the experiences of other sectors as a result of the pandemic, we believe that it will take considerably longer for the construction sector to recover. It is likely that consumers will be wary of letting tradespeople into their homes, especially when Government guidance in the early stages of the pandemic advised that this work should only be carried out if it was essential and necessary. Even with a relaxation of lockdown restrictions, there is likely to be a degree of doubt amongst consumers that tradespeople are properly adhering to public health guidance and safe operating procedures.
36. We welcome TrustMark's launch of a new 'Work Safe – Safe Work' campaign, which aims to ensure protection for consumers and workers during the pandemic and build consumer confidence in the capacity for construction work to be carried out in line with social distancing guidelines. We encourage the Government to continue to promote awareness of both TrustMark and this campaign.
37. Regardless of the impact of Covid-19, consumer confidence for energy efficiency investment measures in the home improvement sector remains low. Scams, poor standards of workmanship and declining financial and policy support for energy efficient schemes, such as the Green Deal and the Energy Company Obligation (ECO), have all taken a toll. Eroded consumer trust in energy efficiency schemes will only impede progress towards the decarbonisation of housing and place net zero objectives out of reach.
38. Consumer advice and guidance is paramount to helping people make informed decisions and identify support available for measures to improve energy efficiency in their properties. In the UK, the Government-endorsed 'Simple Energy Advice' website goes some way to providing this guidance and we are pleased to see that while refurbishment and retrofitting measures are listed as methods to improve the energy efficiency of properties, the various benefits that can be accrued from good building maintenance and repairs have also been referenced.
39. Good repair and maintenance work, such as clearing gutters to prevent overflow onto walls, not only helps to minimise energy wastage and living discomfort, but also increases the durability and longevity of a building's fabric, yielding further long-term benefits in terms of the retention of embodied carbon. Thought must also be given to the needs of households in specific situations, including those in rural areas and heritage buildings. Repair and maintenance work are listed in the BSI 7913:2013 guide to the conservation of historic buildings as the most effective way of ensuring historic buildings do not suffer from avoidable decay that would require energy and carbon to rectify. This standard can be applied to any building, therefore highlighting the correlation between proper repair with energy efficiency and ultimate sustainability.

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<sup>13</sup>National Home Improvement Council, [Results of the Home Improvement COVID-19 Impact Questionnaire: 26 March to 3 April 2020](#), April 2020