

The Chartered Institute of Building (CIOB)

submission to

Scottish Government

on the consultation

New build heat standard consultation: part II

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Introduction

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. Our members work worldwide in the development, conservation, and improvement of the built environment. We accredit university degrees, educational courses, and training. Our professional and vocational qualifications are a mark of the highest levels of competence and professionalism, providing assurance to clients and other professionals procuring built assets.

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Question 1: Do you envisage any unintended consequences as a result of this approach? Please provide reasons for your answer

We support, in principle, the Government's ambition to decarbonise heating systems. Our position is clear on the need for quality, affordable homes. CIOB's vision is aligned with the Housing to 2040 strategy's view that housing should contribute to tackling climate change by delivering homes that are warm, affordable to heat and reduce the emissions caused by housing construction. We share the government's ambition to increase the use of Zero Direct Emissions Heating Systems (ZDEH) in new build developments to begin the process of driving the construction sector towards net zero. However, achieving our ambitious net zero targets will require coordinated, long-term action. Isolated regulations and 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. We welcome the Government's plan to launch a national conversation and campaign to increase awareness of the heat transition with consumer groups. We encourage Scottish Government to examine similar information-sharing programmes from across Europe. For instance, Germany has a high share of deep, large-scale residential retrofits, partly because investors and building owners are well informed about the different options and associated benefits. German owners and investors must hire a certified expert to review retrofit options before project approval. This suggests that requiring the use of certified professionals, as per the proposal, could build on existing 'flipping' practices in the market to create an additional stream of retrofit and address free-rider concerns.¹ Ireland's National Retrofit Plan includes the development of One-Stop-Shops that provide homeowners with the services necessary for a complete home energy upgrade. This network of registered private operators will provide start-to-finish management of the process, simplifying energy-based upgrades for consumers.² Additionally, CIOB will be actively engaging on similar Government initiatives like the Welsh Government's forthcoming Behaviour Change Strategy consultation part of their wider Public Engagement and Behaviour Change Strategy for renewable energies³.

We feel that the potential opportunities that may be gained via enhanced regulations for decarbonising heat in new build developments will be wasted without a holistic and joined-up approach to retrofitting the existing housing stock. At least 70% of the buildings currently standing will be here in 2050.⁴ Recent data shows that 40% of all occupied dwellings in Scotland failed to meet the Scottish Housing Quality Standard, with the highest failure rates concerning the energy efficiency criterion.⁵ Further, over 380,000 people in Scotland indicate that their home is difficult to heat, causing

¹ Kerr, N., & Winskel, M. (2020). [Household investment in home energy retrofit: A review of the evidence on effective public policy design for privately owned homes](#). Renewable and Sustainable Energy Reviews, 123, [109778].

² Government of Ireland, [National Retrofit Plan](#).

³ Welsh Government, [Renewable energy deep dive biannual recommendations update 1](#), September 2022

⁴ ClimateXChange, [Retrofitting British homes to make them more energy efficient](#), September 2017

⁵ BRE Trust, [The Housing Stock of the United Kingdom](#), February 2020

unaffordable energy bills.⁶ Increasing the energy efficiency of existing homes through repair, maintenance and improvement (RMI) work is a socially valuable project that will support the economy while providing an unprecedented opportunity to address the health and well-being of residents and make progress on the decarbonisation of existing homes as a key strategy to meet our net zero obligations.

Additionally, we are concerned that the capacity of existing infrastructure is insufficient to fully support a reliable switch to electric and decarbonised heating. Research has highlighted the need for network-wide innovation in order to mitigate concerns regarding the security of supply as consumer reliance on the electricity network increases, especially in rural networks with overhead lines supplying sparsely located demand centres.⁷ To avoid possible unintended consequences and costs, regulations should only be implemented once capacity challenges within the wider network have been understood and addressed.

Finally, 2.1 could, in isolation, exacerbate the current skills shortage facing the construction industry. In order to facilitate increased ZDEH installations and meet the Scottish Government's target to switch one million homes to zero emissions heating by 2030, a collaborative strategy will be needed to address these shortages, consumer preference and awareness, and the existing barriers to embracing new technologies. From an industry perspective, perpetual volatility in demand for construction has led firms, particularly SMEs, to curb capital and education investment because spending on research and development (R&D) brings high fixed costs that are difficult to cut in an economic downturn. Accordingly, the lack of available finance is a major obstacle for SMEs investing in tools and skills. Creating a Green Skills Fund to channel low-cost, long-term loans to SMEs specifically for investment in formal, sustainability focussed R&D would address this and lead to sector-wide improvements in sustainable practices. A similar fund exists in Holland, where the MKB+ (Innovation Fund for SMEs) gives construction firms access to finance to embed innovative new products, services, and processes in their business.

Question 6: Do you envisage any unintended consequences as a result of this? Please provide reasons for your answer?

CIOB supports the prioritisation of renewable and innovative approaches to heating and cooling. Decarbonising heat presents a significant challenge to our obligation to reach net-zero emissions by 2050: the energy used to heat and cool housing contributes to approximately half of Scotland's greenhouse gas emissions.⁸ Government guidance and support for low-carbon heating will be essential to meeting short and long-term net-zero targets. However, much like 2.1, 2.3 fails to consider several significant barriers to adopting ZDEH technologies such as the significant cost burden that will be faced by home and business owners who would be required under these new regulations to replace their existing heating system. Currently, many households in Scotland are facing fuel poverty, especially off-gas consumers in Scotland's rural communities.⁹ Even before the onset of COVID-19 and current energy cost crises, rates of fuel poverty in remote rural areas increased to 43% in 2019.¹⁰

⁶ Citizens Advice Scotland, [Over 380,000 people cite to heat homes for unaffordable energy bills](#), January 2022

⁷ McGarry, Galloway, and Burt, [Decarbonisation of Rural Networks Within Mainland Scotland: In Support of Intentional Islanding](#), March 2021.

⁸ Scottish Government Housing and Social Justice Directorate, [Home energy and fuel poverty](#)

⁹ Consumer Focus Scotland, 21st century heating in rural homes, February 2012;

¹⁰ Scottish Government, [Housing Condition Survey 2019: Key Findings](#), December 2020

According to the Energy Saving Trust, the current cost of installing both air and ground source heat pumps is around £8,000 to 14,000 and £15,000 to 25,000, respectively.¹¹ The proposed regulations, in tandem with the significantly higher costs of ZDEH systems could make new build housing in rural and island communities unaffordable for substantial portions of the population. It cannot be expected that regulation alone will be sufficient to overcome the significant financial and practical barriers that exist to the uptake of these technologies. CIOB urges Government to implement greater financial incentives and grants for those in rural areas who wish to decarbonise their heating system but are unable to pay a large bill to do so.

Question 7: What criteria would you use to define the replacement of a direct emissions heating system as being ‘reasonably practicable’?

We propose that criteria should include, but not necessarily be limited to: affordability, availability of connection to the gas grid, and capacity of existing local networks.

Question 8: What criteria would you use to define it as being ‘not reasonably practicable’?

We propose that criteria should include, but not necessarily be limited to: affordability, availability of connection to the gas grid, and capacity of existing local networks.

Question 9: How might these proposals impact upon people with one or more of the protected characteristics listed in the Equality Act 2010?

Households in Scotland’s rural communities have a higher proportion of people aged 45 and over, particularly individuals over 65. Further, the proportion of households in remote rural areas classed as extreme fuel poor is approximately three times higher than in other parts of the country.¹² As such, these regulations may place additional financial strains on older, vulnerable households that may already be struggling to cope with heating costs for whom the significantly higher costs of purchasing and installing ZDEH systems will make the use of these technologies inaccessible.

Question 11: Do you anticipate any form of heating within a non-domestic building which will require DEH after 2024? Please provide details of the factors – whether technical, economic, or social – which would require DEH after 2024?

As outlined in our responses above, there are significant barriers that exist, especially in Scotland’s highland and island communities, to the successful uptake of ZDEH technologies. Of paramount importance is affordability and reliability of not only individual systems, but the wider energy network to which they connect. We are supportive of regulations that seek to drive change toward greener technologies. However, this must be part of a holistic framework that seeks to change consumer awareness levels and appetite for new technologies, provides direct financial supports to households and businesses looking to embrace ZDEH systems and works alongside the built environment sector to address skills shortages across the industry. Further, new standards must bear in mind that Scotland’s diverse communities, each with its own unique spatial and economic concerns, especially when comparing urban and rural regions. Without consideration for regional variation and

¹¹ Energy Saving Trust, [Air source heat pumps vs ground source heat pumps](#), October 2021

¹² Scottish Government, [Rural Scotland Key Facts 2021](#), February 2021.

joined-up thinking, our concerns about negative unintended consequences of the proposed regulations will remain.

CIOB has long championed sustainability within the built environment sector; we have developed many resources to provide guidance to the built environment sector on how to cut carbon emissions by applying innovation and best practice to project design, construction, maintenance, operation, retrofit, and waste management. We would welcome further dialogue to discuss the issues raised in this response. CIOB stands ready to work with Scottish Government to support the development of a long-term, coordinated approach to decarbonise properties in Scotland and strengthen recruitment and training in the construction sector to ensure the skills and labour necessary to meet ZDEH installation and wider net zero targets.