

# Retrofit Comment

## HOW DO WE TACKLE THE RETROFIT CHALLENGE?

By Jonathan Ducker, IMA member and Head of Regulatory Affairs at Kingspan Insulation.

The government is placing a great deal of focus on ensuring the future of construction is heading towards a 'greener' place with more sustainability, but what about the abundance of buildings that already exist with poor energy-efficiency? Whilst our need to build more new houses is well documented, there are nearly 30 million existing homes across the social, owner occupier and private rented sectors, many of which will need upgrading. In this article I'll take a look at the wider challenges of retrofitting and why having a long-term strategy is so important to meeting our carbon reduction targets.

A huge challenge in the UK is that our homes are much older than elsewhere in Europe, with 5.8 million homes built before 1919 and over half built before the first insulation requirements were added to the Building Regulations in 1965. As a result, they often leak a lot of heat and feature a wide range of different constructions and materials. They are also in varying states of repair. Consequently, there is no simple, one-size-fits-all solution for retrofitting properties.

### Part L updates

England has published updates to Part L of the Building Regulations which deals with the energy efficiency of buildings in England, with the new standards in place since 15th June 2022 (new energy efficiency updates for Wales and Scotland followed in November 2022 and February 2023 respectively). In 2025, all new homes and other buildings are expected to be 'net zero ready'. This means they will need to be built to ultra-high levels of energy efficiency with heating demand similar to that of the Passivhaus Standard (15-20 kWh/m<sup>2</sup>/year). But there is little in the latest update at present for improvements to existing buildings.

The government is expecting the energy performance of existing homes to be upgraded, with all homes raised to an Energy Performance Certificate of at least C where "practical, affordable and cost effective" by 2035. This affects over 15 million homes in England alone.

The UK Government's Heat and Building Strategy published in 2022 includes more detail about heat in buildings, but rather less detail on improving energy efficiency and reducing demand. Whilst covered, there is little in the way of policy to support this on a large scale, as yet.

### Great British Insulation Scheme

The new and recently launched £1 billion Great British Insulation Scheme (Eco+) is a step in the right direction but is very much focused on easier, cheaper measures, which even where 'easy' have been seen to sometimes cause problems. The Scheme does not address the more difficult and costly, but also poorest performing solid walled properties. Whilst there is a need to take the easier wins, these homes will need a greater level of support to ensure improvement.

Retrofit needs a whole building approach to reduce risks and to maximise savings to achieve positive outcomes. There needs to be an adequate assessment and a whole building plan for improvement that addresses ventilation, condition and detailing of junctions, and that co-ordinates improvements to avoid adverse consequences arising. Older buildings are often complex and need proper consideration. By taking a co-ordinated plan for each home, we could both improve performance and reduce risks.

When improving an existing building, the



Above: Jonathan Ducker.

improvement package must be designed around the specific house. Factors such as the home's design, location and the constructions used for the walls, floor and roof will impact the best solution; getting detailing right, using the right materials in

the right way and in the right places are all important considerations. Before work commences, it is imperative to address any existing issues and ensure a building will be adequately ventilated, especially if these alterations might make the building more airtight.

### Decarbonising heating

As we move to become a net zero carbon country by 2050 (2045 in Scotland), it is vital that we make improvements to our homes and other buildings to reduce emissions. This means installing a whole range of energy saving measures, from new insulation and more efficient appliances, to replacing fossil fuelled boilers with low carbon alternatives such as heat pumps which work best in energy efficient buildings. Significant additional cost and work will be required to deliver the necessary performance in inefficient buildings.

There are two key issues with moving to decarbonised heating – which although essential is not the whole answer. The first is the cost of fuel; electricity is expensive and even with improved heat pump efficiencies, swapping from fossil fuels to electric heating may not deliver cost savings, particularly in less efficient properties. Secondly, as we move vehicles and more heating to electric in the UK, we will need a much greater level of electrical generation. Reducing heating demands in our buildings will

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mean that less generation is needed, so it should be an infrastructure issue as well as a climate change one.

If we do not reduce demands, the incidences of fuel poverty will increase; with inadequate generation to service demand, decarbonisation could stall as less clean generation may need to be used to service higher demands.

The need to generate more power through power stations could serve to increase fuel costs even further, pushing more people into fuel poverty.

The only way to make the equation work is to reduce energy demand, increase the amount of clean generation and then install heat pumps at a similar cost to fossil fuel boilers.

In addition to helping tackle climate change, energy retrofit work also means that homes will require less energy to heat and power. This can help to reduce energy bills and even help lift families out of fuel poverty, whilst significantly improving comfort and wellbeing and contributing to energy security.

### Skills and competency

Given these complexities, it will be necessary to work with a retrofit coordinator and carry out the improvements to PAS 2035:2019. This is a public specification which sets out a clear process for assessing a home, dealing with any issues and developing a medium-term improvement plan which sets out the best order for installing the improvements. The installation and commissioning will then need to be carried out to a good standard via a competent and trained installer i.e. to PAS 2030:2019 and via a TrustMark Registered company.

Whatever the insulation approach adopted, it is vitally important that the UK's housing stock is raised to an acceptable standard by making the fabric of the building as energy efficient as possible. Getting retrofit right reduces carbon emissions, inequality and fuel poverty and can help improve the wellbeing of those who live in inefficient homes, whilst making our building assets fit for future generations.

Contact Insulation Manufacturers Association

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