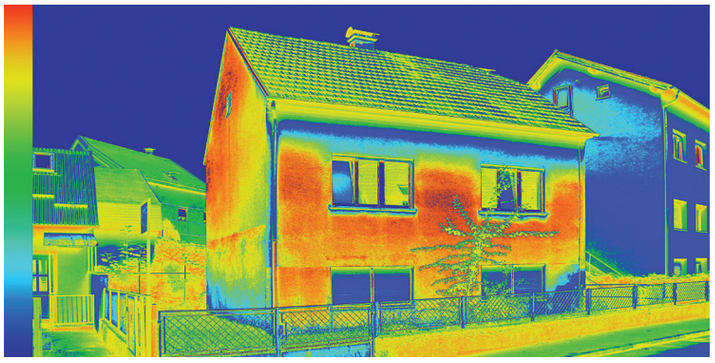
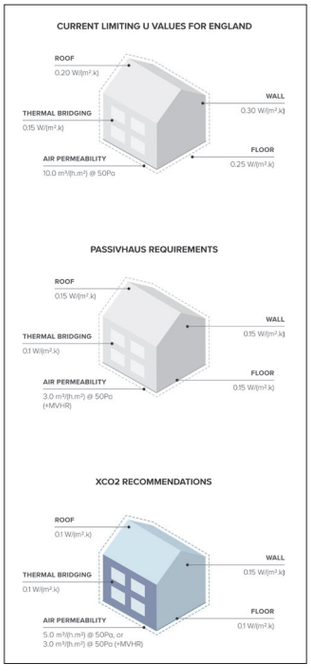




PIR/PUR insulation helps achieve Net Zero goals

Simon Storer, chief executive of the Insulation Manufacturers Association (IMA) takes a closer look at the PIR/PUR insulation as part of a Net Zero strategy

The UK government has a legally binding target to achieve Net Zero CO2 emissions by 2050, against which the built environment is responsible for approximately 40% of all greenhouse gas emissions.

To meet the government's Net Zero goal, significant changes must be made to adopt a Net Zero approach to new residential and commercial buildings. This will require a focus on key challenges such as renewable energy sources, costs, and the supply chain, alongside the utilisation of PIR/PUR insulation, all of which will contribute to achieving energy efficiency goals for buildings.

Renewable energy sources

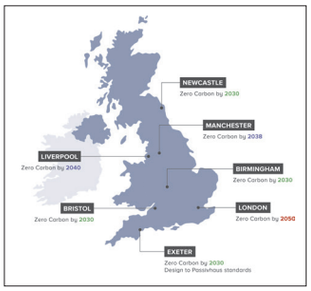
One of the fundamental aspects of Net Zero buildings is the use of renewable energy sources. While incorporating renewable technologies such as solar panels and wind turbines is essential, challenges arise when it comes to providing sufficient energy to meet the demands of a building. However, by optimising energy efficiency and reducing energy demand, the burden on renewable energy sources can be minimised.

Energy efficiency: the role of insulation

Insulation plays a vital role in enhancing the energy efficiency of buildings, reducing heat loss in winter and heat gain in summer. Polyisocyanurate (PIR) and polyurethane (PUR) insulation are widely recognised for their excellent thermal performance. These materials have low thermal conductivity, allowing for thinner insulation layers while maintaining high levels of insulation, which can be crucial in achieving Net Zero standards in building envelopes.

By adopting a fabric first approach, PIR/PUR insulation helps to create a well-insulated building envelope, reducing the need for heating and cooling systems. This, in turn, lowers energy consumption and reliance on fossil fuels. By effectively managing the transfer of heat and minimising air leakage, PIR/PUR insulation contributes to maintaining comfortable indoor temperatures and reduces the overall carbon footprint of a building.

Left: Simon Storer, chief executive of the Insulation Manufacturers Association (IMA)



Cost considerations

Implementing a Net Zero approach in new buildings does come with financial implications. The initial costs associated with integrating renewable energy systems and energy-efficient technologies may appear prohibitive. However, it is essential to consider the long-term benefits and potential savings. Energy-efficient buildings typically have lower energy bills, reducing operational costs over the building's lifespan. Additionally, financial incentives and government support programs can help offset the initial expenses.

Supply chain challenges

The transition to Net Zero buildings requires a robust and sustainable supply chain. Sourcing the most appropriate materials is crucial in reducing the whole-life carbon of buildings. PIR/PUR insulation can play a significant role in this regard; once installed it requires little or no maintenance as its thermal performance is expected to last for the life of the building. Because only a thin layer of PIR insulation is required to meet high thermal performance, it can also contribute to increasing the overall living space within a building.

Improving productivity and collaboration

Despite the vast potential for improving building energy efficiency, many economically viable measures remain untapped. To accelerate progress toward a Net Zero future, collaboration and productivity must be enhanced across the construction sector.

This can be achieved through various means, including knowledge sharing, industry-wide standards and training programs for architects, engineers, and construction professionals. By promoting innovation and best practices, the sector can unlock the full potential of energy-efficient building design and construction.

The Net Zero approach to new buildings is an essential and ambitious goal for the UK to help combat climate change. While challenges exist in terms of renewable energy sources, costs and the supply chain, practical solutions are available.

By utilising high-performance insulation materials like PIR/PUR, buildings can achieve excellent thermal performance, reducing energy consumption and operational costs. Furthermore, sustainable practices in the supply chain and enhanced collaboration across the sector are crucial in accelerating progress toward a net zero future.

As the urgency to address climate change intensifies, it is imperative for policymakers, industry professionals, and stakeholders to work together in overcoming the challenges and embracing the practicality of the net zero approach. By doing so, we can create a built environment that is sustainable, energy-efficient and conducive to a low-carbon future.

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