

# Insulation: Key to net zero approach in new housebuilding

With Labour's 1.5 million homes target, **Simon Storer**, chief executive of **Insulation Manufacturers Association**, says this ambition should be balanced out by the need for more energy efficient buildings with the use of high-performance insulation.

**W**ith the UK aiming for net zero CO2 emissions by 2050 and the built environment responsible for 17% of greenhouse gases, the construction sector faces significant challenges. Labour's ambitious plan to build 1.5 million homes and streamline the planning process is encouraging but this drive for quantity must be balanced with quality and adherence to a net zero future.

Housebuilders should champion 'fabric first', prioritising PIR/PUR insulation to enhance energy efficiency. This strategy, combined with robust inspections, offers a direct route to meeting climate objectives and reducing energy usage. The industry must embrace these changes to deliver sustainable, energy-efficient buildings at scale.

## Energy efficiency: Insulation and fabric first

Insulation plays a vital role in enhancing the energy efficiency of buildings, reducing heat loss in winter and overheating in summer. Polyisocyanurate (PIR) and polyurethane (PUR) insulation are widely recognised for their excellent thermal performance. Once installed in a building, these materials require no further maintenance and will continue to perform well throughout the life of the building, with their low thermal conductivity allowing for a thinner layer of insulation.

A fabric first approach, focused on high-performance insulation is a common sense method of improving energy efficiency and helping to achieve net zero targets. PIR/PUR insulation helps to create a well-insulated building envelope, reducing the need for heating and cooling systems and lowering energy consumption. By effectively managing the transfer of heat and minimising air leakage, PIR/PUR insulation contributes

to maintaining comfortable indoor temperatures and reducing the overall carbon footprint of a building.

## Renewable energy sources

Net zero buildings also rely on renewable energy sources, but challenges arise in providing sufficient energy to meet the demands of a building. However, by optimising energy efficiency and reducing the amount of energy used, the burden on renewable energy sources is lessened.

## Costs

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 and financial incentives and government support programs can help offset the initial expenses. Energy-efficient buildings typically incur lower energy bills, leading to reduced operational costs over the building's lifespan. But just relying on a renewable heat source, without improving the thermal efficiency of the building will likely result in increased energy bills.

## 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 address climate change. While challenges exist in terms of renewable energy sources, costs and the supply chain, practical solutions are available.

High-performance insulation materials such as PIR/PUR offer 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 climate urgency intensifies, policymakers, professionals, and stakeholders must unite to overcome challenges and implement practical net zero solutions. This collective effort is essential to create a sustainable, energy-efficient built environment that supports a low-carbon future. **rci**

