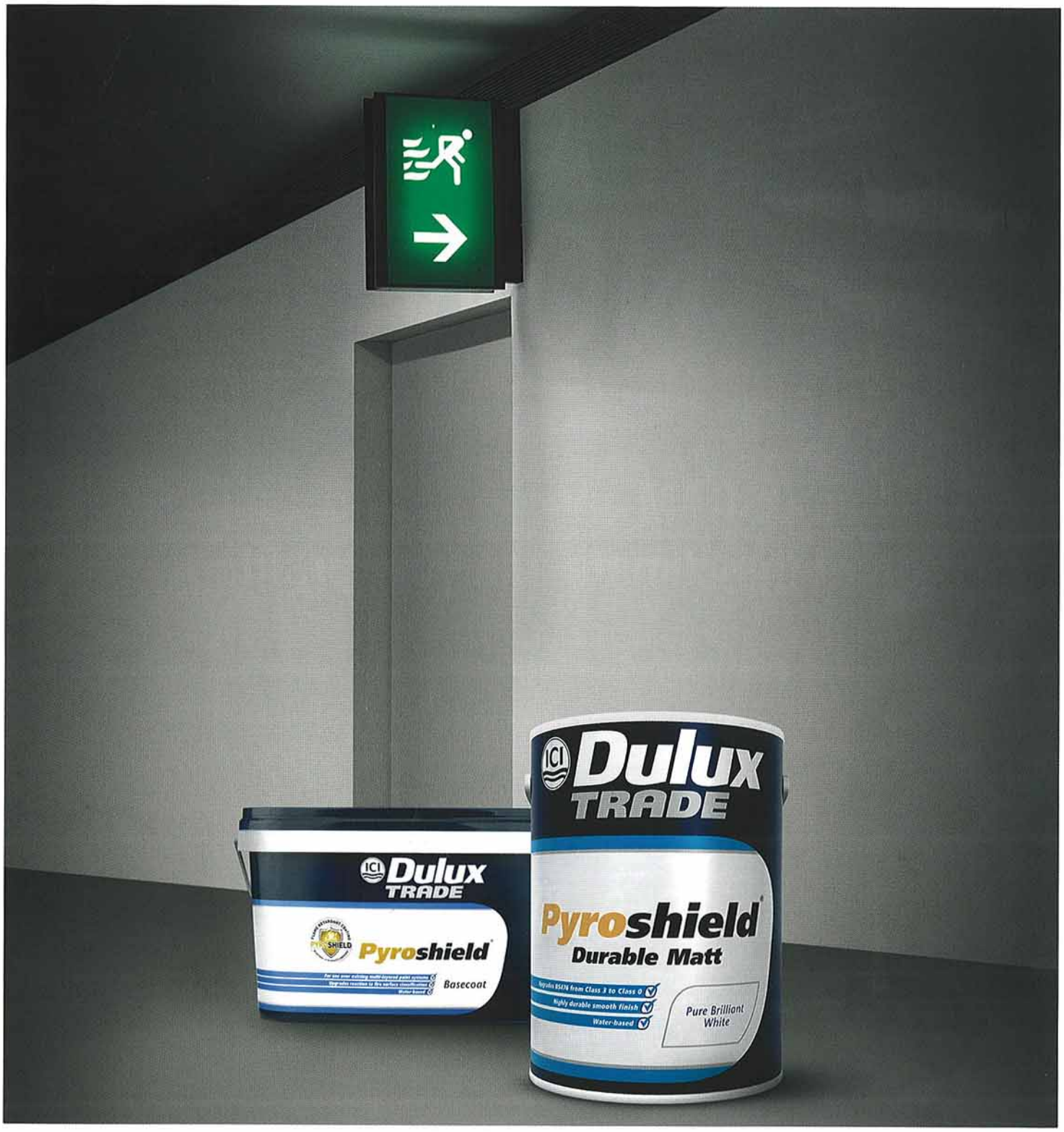
PSLG building

PUBLIC SECTOR & LOCAL GOVERNMENT



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Greening stock: tackling social housing refurbishment

Ken Morgan, partner and head of the public sector regeneration team at John Rowan & Partners, explains the key challenges and possible solutions to greening the UK's existing housing stock.

For a long time the government has focused on upgrading the country's existing social housing stock to a Decent Homes standard, but, with the Audit Commission's latest report highlighting the need to concentrate on more energy-efficient upgrades, the focus is starting to shift.

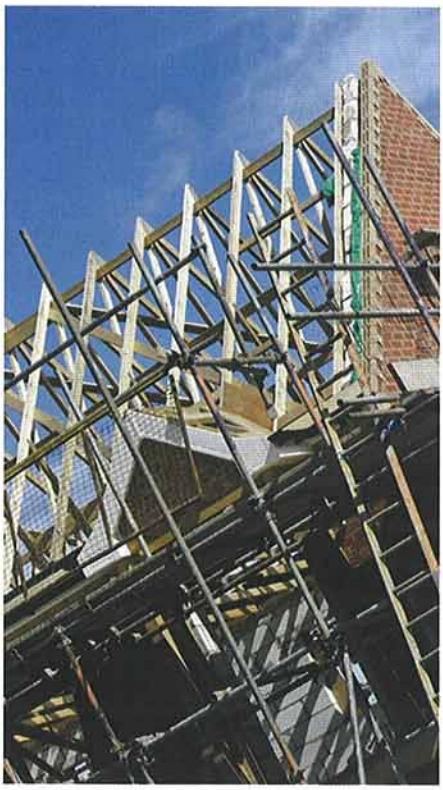
It is a well known fact that the UK's buildings account for around half of all carbon emissions. Reducing this consumption by making housing more energy-efficient should therefore be the first step in meeting CO2 reduction targets. Eighty-five per cent of today's homes will still be standing in 2050 and by then the UK needs to have cut carbon emissions by 80%. It is clear that if we don't tackle the energy efficiency of existing housing stock, we are unlikely to meet the target.

ISSUES TO CONSIDER

However, as most housing associations, registered providers and local authorities know, there are a number of issues to consider. The first and foremost is funding. Without additional government funding or rental increases, many feel investment in energy-efficient housing is unachievable. Another problem is lack of technology, as many solutions are still at a very high cost and with a long payback period.

While progress has been made through government grants for insulation and grass root quick wins, such as educating householders about improving the energy efficiency of their homes, much remains to be done. There has been a lot of recent publicity surrounding demonstration projects that have achieved a Code for Sustainable Homes Level 6 and excel in energy efficiency, but often these come with a cost implication. The lack of commercial viability does little to educate those in the housing industry or to drive permanent behavioural change.

The financial downturn has brought the spotlight firmly back onto social housing and we are starting to see a number of commercially viable



retrofitting projects as a result. John Rowan & Partners are working on one such project that will set a benchmark for future schemes in the area. The £3m project in West London will focus on 114 properties facing the North Circular Road. All will be retrofitted to increase energy efficiency, but at a realistic cost to the ALMO.

We anticipate that this scheme will reduce both the energy usage and carbon footprint of these properties by a third. The project focuses on changes with a shorter return on investment, making it far more commercial.

Innovative principles, including external insulation that will not impact on internal space and argon-filled double-glazed windows, will be used to significantly improve thermal efficiency.

New technologies will operate alongside existing ones, with roof tiles coated in titanium used to soak up nitrogen oxide pollutants from the atmosphere. These will be ideal for lessening the environmental impact of the traffic along the congested North Circular Road and are made from 50% recycled materials. They will sit beside integrated solar PV roof tiles that provide renewable electric energy. This system will generate over 1000 units (kWh) of electricity per year for each property, resulting in up to 603kg CO2 offset per year per household and an estimated yearly saving of £120 on energy bills per household. Any surplus electrical generation will be sold back to the National Grid.

It is clear that the housing and construction industries need to establish a clear and consistent way of retrofitting existing housing stock within a realistic budget. Significant invesment in research and development is crucial for driving down the cost of renewable technologies and creating shorter payback periods for projects. We also need to work together to educate contractors, developers and clients as to the economic benefits of a more energy-efficient housing stock.

> "Investment in research and development is crucial."

One way to achieve this would be to have a centralised strategy group making the best practice advice and design, quality, and cost data all freely available.

The Decent Homes programme has shown that we can deliver a major programme of refurbishment to over three million UK homes. With investment in technologies, education and application we can build on this foundation and make a significant change to the UK's carbon footprint.