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Retrofitting – what do FMs need to be aware of?

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Rehau head of marketing and technical Steve Richmond explores the retrofit boom and the importance of high-performing pipework materials in making facilities more efficient.

The need to achieve net zero emissions by 2050 was enshrined into UK law four years ago, but the feeling persists that more should be done across construction and facility management to achieve this goal.

The validity of these concerns should not be dismissed, especially when International Energy Agency figures underline that the building and construction sectors accounted for 37% of worldwide CO_2 emissions in 2021. This backdrop has led to warnings from bodies such as the Building Engineering Services Association (BESA) that organisations are 'burying their heads in the sand' about the environmental importance of making their buildings more energy-efficient.

Considering the age of the UK's existing building stock, overlooking retrofitting could have dire implications to achieving net zero emissions. In fact, according to the Office for National Statistics, 15% of English homes were built before 1900, and most the country's domestic properties were built between 1930 and 1982. A similar report from the National Trust and Historic England in collaboration with leading property organisations paints a similar picture for commercial properties, with over a third of existing stock being built before 1919.

Roads to retrofitting

The benefits of retrofitting are well-established, including the substantial energy cost savings that can result from implementing more modern technologies within older buildings. Similarly, with embodied

carbon over a building's lifetime becoming a key concern in the wake of net zero legislation, retrofitting is often seen as more environmentally friendly than demolishing and replacing existing properties.

However, to best take advantage of this potential retrofitting boom, facility managers and building professionals must take certain project considerations into account. Key among these is product specification, which can enable long-term cost and emissions savings if high-performing components are chosen. Well-informed product selection may also result in streamlined installation and minimised project waste, allowing costly delays to be avoided.

Practical pipework

Heating and plumbing pipework is one such area where short- and long-term benefits can be quickly and effectively realised through well-informed specification. Specifically, component materials can be a major factor in retrofitting projects, where works often occur within a historic building's existing, often complex layout. In such limited confines, polymer-based piping may appeal over copper or steel as they can be shaped and bent to fit available space.

The comparatively lighter weight of the material can also lead to further sustainability and cost benefits. Namely, it requires less fuel to transport lighter, non-metal pipework materials, opening another avenue for savings on for facility managers looking to reduce a project's carbon footprint.

Yet pipe material itself should not be the sole decision-making criteria – jointing technology may also be considered as a priority, with attention paid to a combination of ease-of-use and reliability. Continued development in this area has seen compression sleeve jointing technologies grow in popularity against traditional O-ring-based jointing solutions.

A visual inspection is also sufficient to ensure correct joint installation, further streamlining project build time – a key benefit given the scale of the retrofitting rollout required nationwide to hit net zero targets.

Old properties, future heat

Ensuring older properties can be linked to low-carbon heat sources, such as heat pumps and district heat networks will also be vital to lowering overall greenhouse gas emissions. As such, facility managers must be aware of factors that might complicate any installation process when helping select where new heating systems are fitted.

This could also be the case when working with listed buildings, where preserving its aesthetic is often a priority. It's important to specify products designed for this purpose to avoid any potential issues during installation.

In conclusion, retrofitting will be a vital tool if the UK is to hit net zero emissions by 2050, especially considering the breadth of existing building stock requiring upgrades. Ensuring swift and effective installation will allow facilities managers to more easily decarbonise their portfolios, but to do so, attention must be paid to material choices for vital infrastructure, including heating and plumbing pipework.