



RETROFIT for the future

Buildings under Refurbishment and Retrofit

Retrofit means to deliver the low carbon emission buildings. The national carbon reduction target is set at 80% by 2050 what means that almost every building in the UK requires a low energy makeover.

The aim of the Retrofit 2050 project has been to increase an understanding of the process of transition towards sustainability in the construction of buildings. Taking into account the climate change, growing resource constraints and steep increases in energy prices the efficient use of the resources is vital. All existing and new buildings will have to be retrofitted to meet challenges of the future living. The Retrofit for the Future increased the level of collaboration between developers, designers and contractors what encourage new business opportunities in the retrofit market.

Data provided by Retrofit for the Future projects shows that:

- Retrofit can reduce the energy consumption and CO2 emissions
- Retrofit can improve householders' living conditions
- Retrofit cuts residents energy costs

The UK Government has emphasised the importance of the retrofitting and refurbishment of the UK's properties, as this approach provides

the greatest potential for reducing CO2 emissions. To meet the carbon targets, by the end of 2050 nearly 28 million of buildings are required to be retrofitted.

A general description of sustainable retrofit and the most common retrofit works.

It helps to save money and makes houses more comfortable.

- **Walls:** insulation of cavities or on external/ internal surfaces.
- **Roofs:** loft insulation
- **Doors:** draught-proofing or replacing
- **Windows:** replacement of old windows with double or triple-glazed units, or draught-proofing existing windows and/or the installation of secondary glazing.
- **Floors:** insulation

Retrofit is also about energy usage by building systems:

- Lighting upgrade with new controls, occupancy sensors, LED, fibre optic and other low-energy technologies
- Tanks and pipes upgrade

- Boilers replacement
- Chiller-plant improvements
- Installation of a building-management system
- Air conditioning upgrade
- Renewable Energy Systems
- Water conservation
- Electrical saving
- Smart metering systems
- Distributed Generation

To sum up, retrofit is an introduction of new materials, solutions and technologies into existing buildings. It helps save money and make houses more comfortable. It provides financial, comfort, carbon and social benefits and prevents all health risk resulting from the damp and mould in the property. The most common approach is the insulation of walls, roof, windows and doors.

Retrofitting of existing buildings for improved energy performance will play a vital role in achieving the UK's carbon reduction targets. More about funding and procurement for retrofit products and services in the next issue of IBB Builder.