

Kent County Council

Energy Security Select Committee

Energy Efficiency and Retrofitting – An Overview

Retrofitting refers to the process of fitting a variety of energy saving and energy efficiency measures to existing domestic, public and private sector buildings, so as to ultimately reduce the buildings energy demand.

How It Works

A range of energy efficiency and retrofitting measures are available to increase energy efficiency and reduce energy consumption, such as:

- Solar panels
- Double glazing
- Loft insulation (LI), cavity wall insulation (CWI) and solid wall insulation (SWI)
- Floor insulation
- Energy efficient appliances and light bulbs
- Curtains and draught excluders
- Biomass stove/boiler

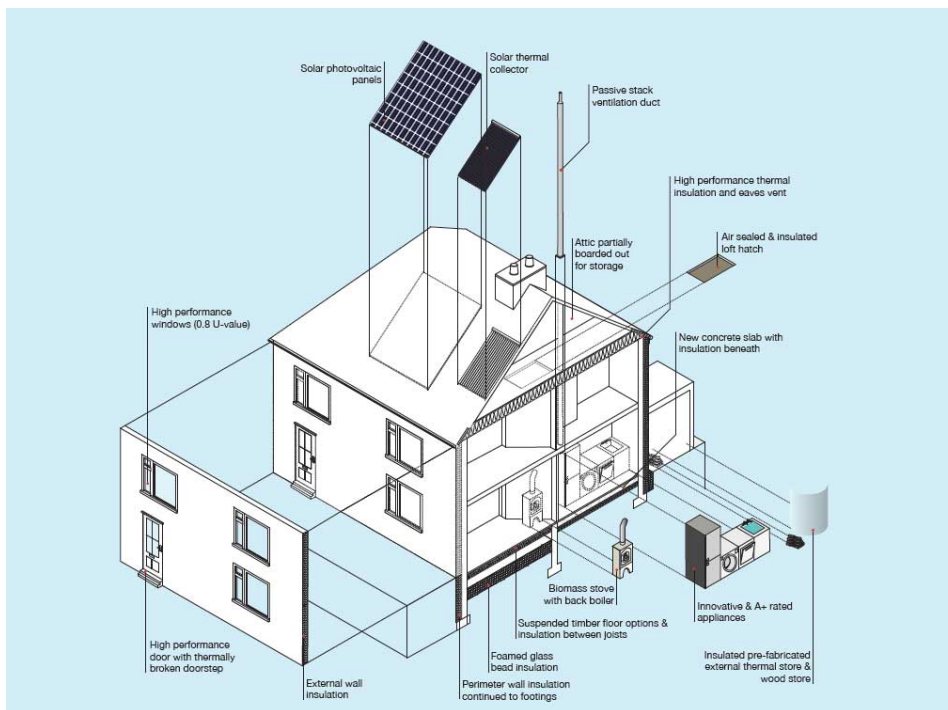


Figure 1 - Domestic Retrofitting Measures¹

¹ URBED (2011) Community Green Deal [online] available at: <http://urbed.coop/projects/community-green-deal>

Facts and Figures

Buildings account for 40% of total UK greenhouse gas emissions² with housing accounting for 26% of final energy consumption³

Previous government regulations (now rescinded) required non-domestic developments to be 'zero carbon' from 2019. However, new buildings account for less than 1% of the UK's overall building stock each year, suggesting that retrofitting has a significant role to play in improving energy efficiency.⁴

Out of a total sample of 16 financially and climatically comparable EU countries, UK housing stock achieves the following rankings (where 1 = best and 16 = worst):

- Affordability of space heating: 14th out of 15
- Share of household expenditure spent on energy: 11th out of 13
- Percentage of households in energy poverty: 13th out of 13
- Homes in poor state of repair: 11th out of 15
- Efficacy of wall insulation: 6th out of 8⁵

Of houses in the UK that have received an Energy Performance Certificate (EPC), 33% are rated E, F or G for energy efficiency, indicative of poor energy efficiency.⁶

During winter 2014/15, cold homes were an identifiable contributing factor in 13,800 deaths, and have contributed to 46,700 deaths for all winters since 2010.⁷

The commercial and public sector retrofitting market presents an investment need of around £3bn to 2020.⁸

Public Opinion

45% of people in Kent give a lot of thought to saving energy in their home (this figure is higher for residents of Dover, Medway Thanet and Shepway), with 49% thinking about it a fair amount.⁹

² Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

³ Association for the Conservation of Energy (2013) Fact-file: The Cold Man of Europe [online] available at: <http://www.ukace.org/wp-content/uploads/2013/03/ACE-and-EBR-fact-file-2013-03-Cold-man-of-Europe.pdf>

⁴ Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

⁵ Association for the Conservation of Energy (2013) Fact-file: The Cold Man of Europe.

⁶ Gov.uk, Energy Performance Certificate rating of residential properties [online] available at: <https://www.gov.uk/government/publications/energy-performance-certificate-epc-rating-of-residential-properties>

⁷ Association for the Conservation of Energy (2015) Chilled to Death: The Human Cost of Cold Homes [online] available at: <http://www.ukace.org/wp-content/uploads/2015/03/ACE-and-EBR-fact-file-2015-03-Chilled-to-death.pdf>

⁸ Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

⁹ From a representative sample of 601 Kent residents, conducted for KCC by Facts International.