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Huntingdonshire District Council Retrofit Homes

Best Practice Case Study

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Project data

Project: The Green House Project comprises the St Neots Green House at Manor Farm Road and St Ives Green House at St Audrey's Lane

Client: Huntingdonshire District Council & Building Research Establishment

Scope of Project: Retrofit

Spray Foam Contractor: Total Insulation

Main Contractor: Apollo Housing

Year Completed: November 2010

Products Used: WALLTITE spray foam insulation and WALLTITE cavity wall insulation

Project Description

The UK has the oldest existing housing stock in Europe. Government targets to reduce carbon emissions produced by this stock by 80% by 2050 gave Huntingdonshire District Council the incentive to reduce the district's carbon footprint and improve the energy and water efficiency of its 67,000 private homes. Working with the Building Research Establishment (BRE) on the Green House Project, part of the BRE's "Rethinking Refurbishment" initiative, Huntingdonshire District Council identified two properties in St Ives and St Neots which could benefit from the campaign. Both houses are typically representative of homes across the district in both their age and construction.

The Green House Project demonstrates how typical family homes can be refurbished affordably and easily, reduce carbon emissions, be more efficient to run and reduce energy bills. The project takes a 'whole house' approach to refurbishment, starting with the building fabric and insulation, windows, heating systems, ventilation, water efficiency measures and the installation of renewable energy technology including solar thermal for hot water and solar photovoltaics (PV) for energy.

The St Neots property, a 1970s three bedroom semi-detached house, demonstrates improvements that can be made to existing properties for a relatively modest financial outlay, with no major structural improvements, whilst still achieving a reasonable energy performance rating.

The St Ives property, a 1960s two bedroom detached house, has undergone sustainable refurbishment, along with a replacement single storey extension at the back and a two storey extension on the side, creating extra living space, an additional bedroom and an integral garage. This represents what can be achieved with more finance and includes a wider range of micro-generation renewable technology.

Challenges

Both houses needed to be completely refurbished and brought up to current day standards in terms of emissions, airtightness and insulation. The St Ives property had no current cavity wall or internal wall insulation and inadequate levels of loft insulation, with inefficient heating resulting in high heat loss and poor airtightness. Improvements were required to the existing dwelling due to its poor construction and to accommodate the new build extension.

Improvements were required in the existing structure due to its poor construction and as part of the new build structure.

The St Neots property had similarly inefficient cavity wall insulation and inadequate loft insulation. With full length windows, the potential for heat loss was high.