

# **Chimney balloons – the answer to rural fuel poverty?**

## **An exploration of the role flues play in dwelling energy use.**

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(Sustainability & Energy Network in Staveley)  
DECC LEAF Project

### Executive Summary:

Considering the number of older properties in the UK, there is a lack of research into the effect that infrequently used open fireplaces and chimneys have on the energy use in our homes. A key tool for assessing the energy performance of houses is SAP and this will form the basis for the Green Deal Assessments.

The research component of the SENS LEAF project includes the following:

- Pressure tests were carried out on a group of homes in South Lakeland to increase the level of understanding of the air permeability of older buildings. This was complemented by thermal imaging, which was used to establish common issues with existing dwellings which may be addressed.
- The additional air flow relating to open chimneys under pressure test conditions was measured for a wide range of dwelling ages and constructions, drawing comparison to previously published results.
- The research investigates the background to the chimney flow rates used in SAP and the impact flues have on the calculated CO<sub>2</sub> output of example properties, relating results to CO<sub>2</sub> savings cited by the Energy Saving Trust.
- Through simulation, one of the test properties is examined in detail and evaluated against the underlying assumptions in SAP for air flows in chimneys.
- The carbon saving potential of using of flue restricting devices, such as chimney balloons is discussed, together with potential problems, including the variability of older flues.