



**For immediate release**

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**POST CONSTRUCTION TESTING VITAL IF NEW HOMES ARE TO MEET  
ENERGY DESIGN TARGETS, SAYS GHA**

The Good Homes Alliance (GHA) is calling on the Government to encourage and incentivise post construction testing of new homes in light of research which reveals that design energy standards are not always being met.

The recommendations put forward by the group of leading developers, academics and industry professionals follow the completion of the first phase of its field-leading monitoring and feedback programme.

Launched last year and sponsored by the Energy Saving Trust (EST), the National House-Building Council (NHBC) and Communities and Local Government (CLG), the programme set out to measure the fabric performance, and consequently the whole house heat loss, of four energy efficient dwellings at three member developments, post construction. This allowed the GHA to compare their performance against Government regulations and targets, and to compare the actual measured performance against predicted performance.

Results reveal that the four test dwellings achieved very low levels of actual measured heat loss, all of them performing better in practice than the Building Regulations design targets required at the time of their planning approval and often getting close to the enhanced energy targets they were trying to achieve, for example Code Level 4 or 5 energy standard. Three out of four of the dwellings achieved a measured heat loss level compliant with the Part L 2013 Building Regulations design target (see Chart 1.).

The tests did detect a performance gap, but showed a measured whole house heat loss of an average of only 14% higher than designed, which is significantly less than the 60% performance gap recorded for other new homes in a previous study in 2008\*. Given that

all the dwellings had a very small predicted whole house heat loss, the absolute numerical difference between predicted and measured is very small.

Developments tested include Joseph Rowntree Housing Trust's Temple Avenue in York (CSH Level 4), Crest Nicholson BioRegional Quintain's One Brighton (EcoHomes 'Excellent' and One Planet Living®) and Ecos Homes' Old Apple Store in Somerset (CSH Level 5).

Project partners Leeds Metropolitan University, UCL and Oxford Brookes University conducted the fabric performance tests which consisted of co-heating tests, heatflux measurements and thermal imaging. In order to compare the results of the fabric tests for each property, the whole dwelling heat loss was normalised by gross floor area to obtain the Heat Loss Parameter (HLP).

To help close the performance gap, the GHA is recommending that the industry undertakes fabric heat loss testing of a sample of all new homes built, alongside airtightness tests, particularly when building to a new standard or using a new build system for larger developments. Government and the wider industry should also help to incentivise a feedback mechanism to ensure the results inform future design and construction decisions for house builders and their supply chains and deliver improved standards of fabric performance.

In order to assist this performance improvement cycle, the accuracy of both the predictions and measurement needs to be improved. Lessons learnt from post construction testing should be fed into regulatory modelling and prediction tools such as SAP and test methodologies should be researched and developed further. The GHA will be working to help make this happen.

**Jon Bootland, Director of the Good Homes Alliance, comments:**

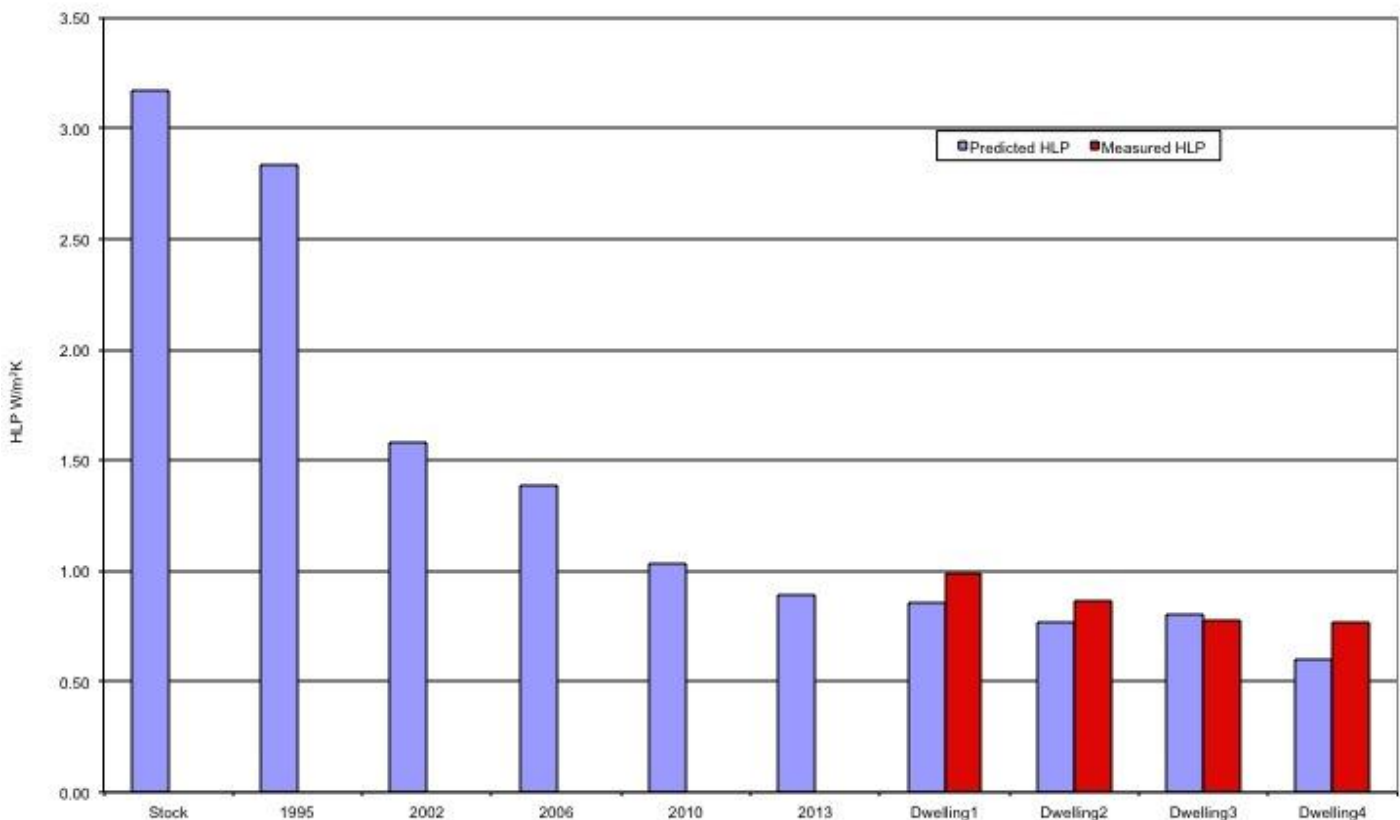
"Our fabric heating tests reveal that it is possible to build homes that achieve the excellent energy standards they are designed to. However, many are still falling short in practice. If the Government is to meet its carbon reduction targets, an evidence based approach to the design and build of sustainable homes is urgently needed. Encouraging more developers to undertake testing and monitoring and setting up mechanisms to

collate and feedback the results of measurement to the industry as a whole, will help to ensure the sustainability of new homes in an era of difficult environmental challenges and rising energy prices.”

A home’s energy efficiency is not guaranteed by its fabric performance alone and as part of the second phase of its monitoring and feedback programme, the GHA will be looking to establish homeowners’ impact on that performance. Data will be collected on the homes’ energy and water use, internal temperature, air quality conditions and the performance of Low and Zero Carbon Technologies, comparing design targets such as CSH and Standard Assessment Procedure (SAP) against actual performance. Occupant feedback will also be collected using an extensive questionnaire, providing an in-depth understanding of how the homes are used. Initial results from the second phase are expected to be available in Spring 2012.

### ENDS

*Chart 1. Measured heat loss parameter of the GHA test properties, compared to the stock, past, present and predicted building regulatory requirements.*



\*WINGFIELD, J., BELL, M., MILES-SHENTON, D., SOUTH, T & LOWE, R.J. (2008)  
Evaluating the Impact of an Enhanced Energy Performance Standard on Load-Bearing  
Masonry Construction – Final Report: Lessons From Stamford Brook - Understanding the  
Gap between Designed and Real Performance, PII Project CI39/3/663, Leeds  
Metropolitan University, Leeds.

### **About the Good Homes Alliance**

The Good Homes Alliance (GHA) is a group of housing developers, building professionals and other industry supporters whose aim is to close the gap between aspiration and reality by showing how to build and monitor good homes which are sustainable in the broadest sense.

All GHA Developer Members have signed up to meet the GHA criteria which requires at least 50% of all units to be built to the Code for Sustainable Homes Level 3++. This level is Level 3 plus an absolute carbon and energy standard equivalent to a 70% reduction from the average building stock, plus 2 year minimum post occupation monitoring. Members must also sign up to the GHA Charter, which covers other aspects of social and community-scale performance.

The GHA helps to support this industry transformation through education, research & guidance and technical support, and also engages in active policy and promotion activities to ensure that market conditions encourage and incentivise developers to take a more sustainable approach.

Visit [www.goodhomes.org.uk](http://www.goodhomes.org.uk).

### **Further information**

For further information or for interviews with the GHA or its research partners please contact:

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