

# Hearth + Home

## Energy efficiency research

Policy makers planning for climate change are faced with a lack of reliable data about the behaviours of historic buildings. Most assessments of energy use are based on theoretical models, and produce results that conflict with actual measurements. Many assumptions are being made without the measurements to back them up – English Heritage is particularly concerned about the belief that traditionally constructed buildings are much less energy-efficient than modern structures. Already this belief is being used to back proposals to demolish or drastically alter older buildings; but is it true? We need to understand the energy behaviour of our homes, old and new, and the impact of any alterations, so that we can be sure that our adaptations are the most suitable and effective for mitigating and adapting to climate change.



Responding to the need to gather this data, English Heritage is developing *Hearth + Home*, an ambitious and potentially groundbreaking research project which will monitor the energy usage of real Victorian houses, lived in by ordinary people, to work out best practice in measuring energy efficiency, to evaluate the cost-effectiveness of energy-saving options, and ultimately to provide guidance on measures to reduce domestic fuel usage and carbon emissions. The predictions from standard models will be compared with actual performance. Recommended improvements will be tested, and their energy and carbon cost-benefits assessed. *Hearth + Home* will closely examine how people use their houses, and how this affects energy consumption. We are looking to provide reliable and well-founded guidance for homeowners on how best to save energy and reduce their carbon footprint, whilst staying comfortable and maintaining their building in the best condition.

So far as we are aware, nothing like this has been done before, and we are committed to working with a wide range of stakeholders across government, academia and the commercial world. The outputs from this summit will directly inform the planning of *Hearth + Home*; if you would like to be more directly involved, please contact the us via the email address below.

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**Tudor houses 'leak less energy'**

**Tudor homes have better energy efficiency than many more recent buildings, a survey suggests.**

The 16th Century dwellings leak 10.11 cubic metres of air an hour for every square metre of wall - much less than many other more recent dwellings.

Tudor homes used local materials and had a low carbon 'footprint'

Buildings built in the 1960s leaked as much as 15.1 cubic metres.

The British Gas survey also found that because the wooden-beam buildings were made airtight with stones or wattle and daub, they had fewer carbon emissions.

Their use of local material also lessened their environmental impact, the research from IRT Surveys said.

**“ The smartest way to save energy may be to live in a Tudor house and insulate the attic and repair the windows ”**

Prince's Foundation for the Built Environment

It found that houses built in the 1970s leak 11.7 cubic metres of air an hour for every square metre of wall, while those from the 1980s leaked 12 to 40.1 cubic metres and hour, and 1990s buildings leaked between 12 and 23.6 cubic metres.

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