

Date: 6th March 2002
Time: 14.00 - 17.30
Venue: Committee Room 1, National Assembly for Wales, Cardiff Bay
Title: Energy Efficiency - The House Builders Federation

ENERGY EFFICIENCY - THE HOUSE BUILDERS FEDERATION

Following the publication of the Building Regulation Amendments, and the Standard Robust Details associated with Part L, Developers are redesigning their house types, and in some instances moving towards different forms of construction.

The good things new houses provide in terms of efficiency and environmentally friendly practices:

New houses provide:

- Increased thermal insulation
- Energy efficient boiler and heating installation
- Efficient heating controls
- Building ventilation designed in conjunction with heating installation, summer shading and winter exposure
- Efficient glazing
- Energy saving light fittings & bulbs
- Energy efficient electrical white goods
- Low water usage appliances and fittings
- Incorporation of green or sustainable materials (e.g. timber from re-planted sources)
- Space for recycling of domestic waste
- Use of siting, orientation and layout, for the efficient use of natural light, and / or to optimise the balance between summer shading and winter heat loss through exposure.
- SAP Notices – notifying purchasers of the energy rating of their new home, composed with reference to both the insulation and the boiler / heating installed.

HBF are currently working on an industry standard SAP notice which will provide a visual* representation to purchasers of the energy efficiency of their new homes. (*similar to the energy efficiency coding on white electrical goods)

Environmentally friendly construction practices:

- Management of site waste: Monitoring of waste, recycling of waste, adaptation of

ordering processes to give minimum waste.

- Saving of Transportation Energy: Via the incorporation of local material where available.
- Saving of Transportation Energy: Via the development and organisation of staff travel plans to encourage more energy efficient means of transport to and from work.

National Standards for Energy Efficiency

HBF would suggest that energy conservation in new homes will be best achieved through the Building Regulations.

Experience has shown that the established system of building control in England and Wales provides a reliable framework for the control of health, safety and energy conservation matters within buildings. With very few exceptions, national rules are applied consistently. HBF cannot see that there are likely to be any legitimate considerations relating to energy efficiency, which would benefit from exposure to the planning system, or by the imposition of alternative (or more stringent) requirements to those denoted by Building Regulations.

Cost and proportionality:

Review of the Part L proposals identified that only low levels of additional carbon savings are likely to accrue by setting minimum standards beyond the 0.35W/m²K set under the new Part L for external wall construction.

All other things being equal, the difference in carbon savings in new dwellings where external wall construction achieves 0.30 compared to the same dwelling built with walls at 0.35 is marginal in the extreme. Even for a detached house, the 'extra' carbon savings are equivalent only to, for instance, one cycle per week of an electric washer / drier.

Such changes would potentially have the effect of forcing house builders to abandon current building practices and move to new forms of construction. This could not be enforced without a loss in the number of houses being constructed, as there is insufficient capacity in the timber and steel frame supply industry to meet the anticipated demand. Also there would be a struggle to obtain the level of new labour required, and to provide and achieve the training / re-training needs of all house building staff.

HBF would expect that such changes would introduce further delays and complication into the planning and building control approval stages of the development process, and could also act as a restraint to competition in both the housing industry, and its supply industries.

Other areas where Energy Efficiency savings could be achieved:

Existing Housing Stock

New build is a low percentage of housing stock, and increasing the efficiency of the existing housing stock would be more beneficial to the environment.

To quote John Hobson (from the keynote address, NHBC Annual Conference 1998) *"the existing stock is the big carbon producer and if you want to get at the big output from housing and offices, you cannot look only at new buildings, which by and large are pretty efficiently built anyway"*.

The table below shows energy efficiency details for a 1900's property with various improvements. Also shown are the figures for a new build property pre and post the Amendments to Part L, April 2002.

The figures below are based on a detached house with an area of 120m² and with the same area of openings.

Insulation improvements in the calculations were:

Loft – 200mm quilt

Walls – 50mm insulation

Glazing – 100% double glazed 6mm air gap

Draught Proofing – 100%

Cylinder Insulation – 100mm jacket

Heating and controls – Modern gas heating with programmer, roomstat and thermostatic valves

Note: The 1900 property was assumed to have solid walls, and while these can be insulated the cost of doing so may be prohibitive.

Property Type	SAP	CO2 (Tonnes per annum)	Space and Water Heating Costs (£ / annum)
1900 Property as constructed with no central heating, coal open fires	10	23.4	£1,200
1900 Property as constructed with gas central heating fitted 20 years ago	27	10.4	£830
1900 Property with insulation improvements but no central heating, open coal fires	43	11.3	£600
1900 Property with insulation improvements and standard gas central heating	57	5.2	£440

1900 Property with insulation improvements and condensing gas central heating	70	3.8	£338
Newbuild pre April 2002 – With standard gas central heating	76	3.4	£300
Newbuild pre April 2002 – With condensing gas central heating	82	2.9	£265
Newbuild post April 2002 – With standard gas central heating	90	2.4	£230
Newbuild post April 2002 – With condensing gas central heating	96	2.1	£200

Please note the figures quoted above are indicative and should only be used for comparison purposes.

Further details and information can be obtained from Elmhurst Energy Systems. Tel: 01788-833-386.

Strutt & Parker – A Survey of People’s Attitudes to Energy Efficient Housing (2000) "Industry estimates that loft lagging alone can reduce fuel bills by about 20%. Lagging pipes and installing a modern condensing boiler will produce further savings."

HBF would recommend that the compulsory SAP notice requirement should be applied to existing buildings as well as new, as this will draw the attention of many more house holders to the energy performance of their properties.

Brown Goods

The extent of brown goods (i.e. non-white electrical goods, e.g. TVs, Computers, etc.) installed / used within a domestic residence by occupiers is increasing. The energy usage of brown goods both in use and in stand-by mode is high. Potentially this is an area where high savings in energy efficiency terms can be achieved – far above those achievable by further amendments of the structure (insulation) and services installations.

Unfortunately the house-building industry has no control over manufacture, consumer choice, or usage patterns in respect of brown goods – and these are rarely (if ever) provided as part of the sales package.

HBF consider that brown goods should be made subject to the same visible energy rating bands as white goods in order to influence consumer choice on energy efficiency terms.

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February 2002