

Changing times are ahead

Pending EU legislation will have a major impact on the UK hot water cylinder, according to John Hardaker of Kingspan Hot Water Systems

The design of hot water cylinders used in the UK – both traditional vented and mains pressure – is set to change when the Eco-labelling of Energy Using Products Directive (EuP) comes into force.

The directive was finalised in July 2005, and established a framework for the setting of eco-design requirements for energy using products. Its aim is to improve the environmental performance of products throughout their life-cycle.

The EU appointed Dutch consultancy company VHK to carry out a study on water heaters, and this came to the conclusion that labelling should be based on their efficiency during the usage phase.

The UK hot water storage market is different from the rest of Europe, in that the components for the central heating system and the hot water system are generally sourced from different manufacturers.

In mainland Europe, the opposite tends to occur, with all the individual items being sourced as a single package.

The UK market for hot water storage systems is currently around 800,000 units per year, of which around 70% are of the indirect type.

This directive is proposing to classify direct cylinders (with immersion heaters) as electric water heaters, and to label them according to their energy efficiency against specific draw-off profiles.

Indirect cylinders were originally to be rated as part of the whole house heating and hot water system but, following

discussions and lobbying at the highest level (which included the HWA), it was agreed that the cylinder would be classed as a component in its own right and would carry its own energy rating label.

It is intended that all indirect

1566:2002 (vented), BSEN 12897 (unvented) or the HWA thermal storage specification (primary stores).

VHK has, however, listed several different EN energy efficiency standards which use alternative methods of

rated products will have to be withdrawn from sale.

This change will have a considerable impact. For example, a typical 200-litre cylinder – keeping the footprint at 550mm diameter in order to fit through doors and into airing cupboards – would need an increase in height from around 1,300mm to 2,300mm. This would also increase costs significantly.

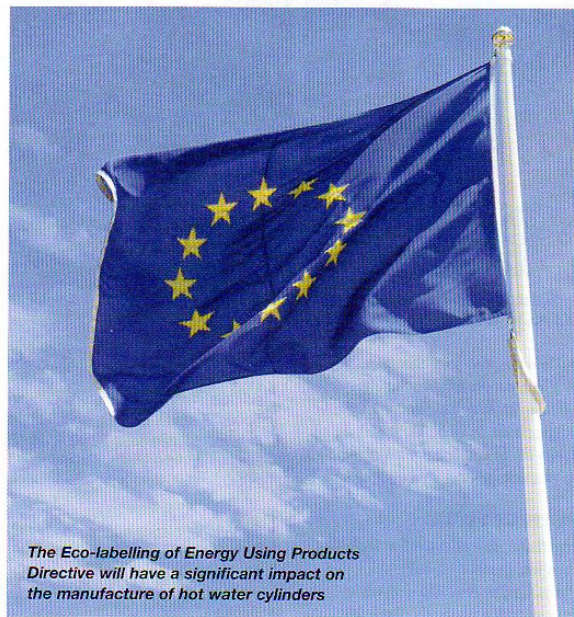
If these recommendations go forward, the majority of current design hot water cylinders would not meet the required A to C energy-efficiency levels, and will have to be completely redesigned or withdrawn from sale.

This is clearly an unacceptable situation and much work needs to be done.

HWA is actively involved in lobbying the proposed actions and trying to bring some realism into the EuP's thinking. Several MEP's have been contacted, and have responded offering their support. While everyone agrees that energy efficiency levels should be improved, there is a cut-off to cost benefit and this fact cannot be ignored.

HWA supports the moves to promote and develop improved efficiency standards, and will continue to work with BERR and DEFRA to achieve this end.

However, it is important to ensure that the investment required to achieve these target levels does not exceed the benefits gained. The revised products must be practical to manufacture, must fit into UK housing stock, and be ones that customers want to use.



The Eco-labelling of Energy Using Products Directive will have a significant impact on the manufacture of hot water cylinders

hot water cylinders will carry an energy-efficiency rating label of the type A to C, the same as can already be seen on white goods.

In order to achieve the required "pass" level of A, B or C, the levels of insulation – and therefore efficiency – would need upgrading.

AHEAD OF THE GAME

The UK is actually ahead of the game, in that Part L Building Regulations already require hot water storage cylinders to be labelled with standing heat loss and heat exchanger performance.

This is done using either BS

calculating the heat loss, and which are not necessarily best suited to the task in hand.

Currently, cylinders are usually factory-insulated with sprayed or injected foam, to a thickness of between 25mm and 50mm. These levels meet the requirements of Part L.

Based on the VHK proposals, and to meet the required criteria of energy-efficiency ratings A to C, these insulation levels would need to be increased significantly, possibly to around 100mm thickness.

This insulation requirement is expected to be implemented sometime between 2010 and 2012, at which point D- to G-