

## Executive Summary: Building in ignorance

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The environmental imperative, and legally binding Kyoto agreement, requires that the UK reduces its carbon dioxide emissions significantly both immediately and in the longer term. In addition, British consumers are entitled to homes with low running costs which do not unnecessarily contribute to global warming.

If we are to move towards more sustainable housing, the Government has to provide the right background conditions and signals and the private sector has to implement the strategy successfully. Neither of these objectives are being met at the moment.

The longevity of the housing stock, particularly in Britain, means that today's building standards affect the country's carbon emissions for well over 100 years. Therefore, the continuing low standard of new British homes is jeopardising our ability to reach climate change targets in 2010 and beyond.

- The Building Regulations should promote higher standards for energy conservation and should force the elimination of poor building practice. The new revision of the Approved Document Part L [2001] represents a missed opportunity to improve the quality of new housing in England and Wales.
- Previous Part L revisions in 1982, 1990, 1995 – cumulatively were supposed to reduce energy consumption for space heating by 60%. No evidence exists to show that these benefits were achieved in practice and the net effect may have been only a third of this target. The present aim of a further reduction of 23% may well be barely 10% in practice.
- This Report demonstrates that our current Building Regulations commit us to dwellings with unnecessarily high carbon dioxide emissions, for the life of the building - decades, if not centuries. British householders will also be subject to higher energy bills than could have been the case.
- Experience of energy conserving projects has existed in the UK since 1980 showing that good building standards can at least halve energy consumption. Yet the new Part L still allows for standards in one part of the building fabric to be 'traded off' against standards in other areas, resulting in worse energy performance - for instance, less insulation when the windows are small – resulting in higher heating and lighting bills, and the encouragement of speed-driven building practices at the expense of energy saving, eg the use of plasterboard instead of wet plaster, which is more airtight.
- The Report argues that official UK figures for heat loss values (U-values) in construction are optimistic- theoretical savings are not achieved in practice. Further, new homes often have excessive heat loss through uncontrolled air leakage, a problem that is not being regulated.
- As a result of the current inappropriate Part L, the UK construction industry – design professionals, developers and component manufacturers - is delivering an energy-inefficient, poor-quality end product of which consumers – the householder – is largely unaware.
- Examples of good housing practice abroad demonstrate the potential for the UK housing stock:
  - energy consumption and CO2 emissions could be reduced by 80% in new homes authorities in Germany, Sweden, Switzerland and Canada expect to deliver mass housing which consumes no fossil fuel at no extra building cost, from 2020;
  - new homes in Sweden, Norway, Denmark, Switzerland, Germany and northern USA are already at a higher standard of energy efficiency than the new standard proposed for 2002 in England and Wales;
  - new British houses retain the heat less effectively than Scandinavian houses built before the Second World War.
  - Swedish high standards have added only 1% to building costs; homes are now consistently so well built that testing for air leakage is no longer necessary
  - The Canadian R-2000 scheme is a Government-funded training programme to encourage builders to construct to a higher standard than the Building Regulations- there are no such proposals to train the British building workforce.

## RECOMMENDATIONS

The aim should be for the energy efficiency standard of new British homes, within 10 years, to be among the world leaders and, shortly after, for new homes to produce only 10% of the carbon emissions of today's new buildings. To support this aim, the Report's recommendations are to:

- establish, through systematic measurements, the real energy performance of new buildings completed to 1995 Building Regulations in order to confirm the baseline for the next round of revisions. The scale of the deficit will then be known;
- undertake pilot schemes that give builders incentives to guarantee maximum heating bills. The results of the pilots should inform the next revisions to the Building Regulations;
- set higher, but simpler standards and reduce the scope for 'trading-off';
- adopt, within four years, U-value calculation methods which fully correspond to physical reality. These procedures are set out in existing European standards;
- provide more detailed support and guidance to the industry on how to deliver these higher standards, in practice;
- introduce random testing of the construction quality of new dwellings immediately;
- invest in a programme of training, education, research, development and demonstration for the industry as a whole;
- have a planning system that encourages developments built for or by private individuals. This self-build market is receptive to high standards of energy efficiency and is responsible for over 25% of new housing, by floor area;
- achieve UK involvement in international projects on good practice and actively disseminate successful new techniques and technologies.

The 2001 revisions to Part L do not provide the real and practicable leap in standards that is required and represent a real missed opportunity. It is time for all new British homes to be among the most energy efficient in the world and to demonstrate that we have learnt the lessons from the best developments in Britain and in other countries.

We no longer need to be building in ignorance.