



RESEARCH PAPER 04/10  
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# *The Sustainable and Secure Buildings Bill*

**Bill 15 of 2003-04**

The *Sustainable and Secure Buildings Bill*, (Bill 15 of 2003-04) is sponsored by Andrew Stunell, the Liberal Democrat energy spokesman, who came first in the ballot for Private Members' Bills. It is due for second reading on 30 January 2004.

The Bill elevates sustainability to the highest level for the purposes of the *Building Act 1984* by adding three new purposes for which Building Regulations may be made under the Act: to further protection of the environment; facilitate sustainable development; and further the prevention and detection of crime.

The measures would apply to England and Wales.

Brenda Brevitt and Donna Gore

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## Summary of main points

The *Sustainable and Secure Buildings Bill*, Bill 15 2003-04, is sponsored by Andrew Stunell, the Liberal Democrat energy spokesman, who came first in the ballot for Private Members' Bills in the session. The Bill is supported by a number of interest groups including the World Wildlife Fund (WWF) under the banner of its *One million sustainable homes* campaign. It is to be debated on 30 January 2004.

It is increasingly recognised that buildings will only be truly sustainable, in environmental, social and economic terms, if they and the neighbourhoods they are in are well designed, planned and constructed in a way that provides safe, secure, affordable accommodation, reduce the need to travel and offer high quality public services. The idea that each building leaves an environmental footprint is also fundamental to the concept of sustainable communities. This paper reviews the Bill in that context.

The Bill itself has nine clauses and is intended to elevate sustainability to the highest level for the purposes of the *Building Act 1984*, and to facilitate further prevention and detection of crime through increased security measures. The measures would be brought in by new requirements under the Building Regulations and would apply to England and Wales.

The paper looks at the concept of sustainability, and comments on what the Government has done so far to promote sustainable buildings. The Building Act 1984 and Building Regulations made under it are reviewed in areas pertinent to this Bill.

The Appendices provide a more detailed exploration of initiatives that might be supported by measures within the Bill including: renewable technologies and two way metering; fiscal incentives for energy efficiency measures; water conservation measures and home security measures.



## CONTENTS

<b>I</b>	<b>Introduction</b>	<b>9</b>
<b>II</b>	<b>Liberal Democrat energy policy</b>	<b>9</b>
<b>III</b>	<b>WWF sustainable homes campaign</b>	<b>11</b>
<b>IV</b>	<b>Sustainability – can we define it?</b>	<b>17</b>
	<b>A. Environmental impact of households</b>	<b>18</b>
	<b>B. Domestic energy efficiency</b>	<b>19</b>
	<b>C. Sustainable construction methods</b>	<b>20</b>
	<b>D. Sustainable low carbon homes</b>	<b>22</b>
<b>V</b>	<b>What has the Government done so far on sustainable homes?</b>	<b>22</b>
	<b>A. Building a Better Quality of Life</b>	<b>23</b>
	<b>B. Achieving Sustainable Construction Procurement</b>	<b>23</b>
	<b>C. Sustainable Communities Plan</b>	<b>24</b>
	<b>D. Energy White Paper</b>	<b>24</b>
	<b>E. Review of the Building Regulations</b>	<b>25</b>
	<b>F. EU Directive on Energy Performance of Buildings</b>	<b>26</b>
	<b>G. Future Performance - Part L of the Building Regulations</b>	<b>28</b>
	<b>H. Better Buildings Summit</b>	<b>30</b>
<b>VI</b>	<b>The Building Act 1984 and Building Regulations</b>	<b>31</b>
	<b>A. Scope of the Act and Regulations</b>	<b>32</b>
	<b>1. Crown immunity</b>	<b>34</b>
	<b>2. Exempted buildings and services</b>	<b>34</b>
	<b>3. Exempt Buildings and Work Class VII</b>	<b>35</b>

<b>B.</b>	<b>Heating appliances</b>	<b>35</b>
<b>C.</b>	<b>Ventilation and cooling</b>	<b>37</b>
<b>VII</b>	<b>Renewable technologies</b>	<b>38</b>
<b>VIII</b>	<b>Water conservation measures</b>	<b>38</b>
<b>IX</b>	<b>Home security measures</b>	<b>39</b>
<b>X</b>	<b>Fiscal measures</b>	<b>39</b>
<b>XI</b>	<b>The Bill</b>	<b>40</b>
<b>XII</b>	<b>Comments on sustainability</b>	<b>46</b>
<b>A.</b>	<b>By Political Parties</b>	<b>46</b>
1.	Labour Party	46
2.	Liberal Democrats	48
3.	Conservative Party	49
<b>B.</b>	<b>By Interest groups</b>	<b>49</b>
<b>Appendix 1</b>	<b>Solar heating</b>	<b>51</b>
<b>A.</b>	<b>Inter-seasonal technology</b>	<b>52</b>
<b>B.</b>	<b>Solar electricity (photovoltaics)</b>	<b>52</b>
<b>Appendix 2</b>	<b>Combined Heat and Power</b>	<b>53</b>
<b>Appendix 3</b>	<b>Micro wind generation and two way metering</b>	<b>56</b>
<b>A.</b>	<b>Two way metering</b>	<b>56</b>
<b>Appendix 4</b>	<b>Water conservation measures</b>	<b>59</b>
<b>Appendix 5</b>	<b>Home security measures</b>	<b>61</b>
<b>A.</b>	<b>The Warm Front Team</b>	<b>61</b>
<b>B.</b>	<b>The Crime Reduction Programme</b>	<b>62</b>
<b>C.</b>	<b>The Here to Help Programme</b>	<b>65</b>

<b>Appendix 6 Economic instruments to promote energy efficiency</b>	<b>67</b>
<b>A. VAT on energy-saving materials</b>	<b>68</b>
<b>B. Capital allowances</b>	<b>69</b>





## I Introduction

It is increasingly recognised that buildings will only be truly sustainable, in environmental, social and economic terms, if they, and the neighbourhoods they are in, are well designed, planned and constructed in a way that provides safe, secure, affordable accommodation, reduce the need to travel and offer high quality public services. The idea that each building leaves an environmental footprint is also fundamental to the concept of sustainable communities.

The DEFRA website includes the following statement on what makes a building sustainable:

- A building that leaves as small an environmental footprint as possible, is economic to run over its whole life cycle, and fits well with the needs of the local community.
- A building that is energy and carbon efficient, designed to minimise energy consumption, with effective insulation and the most efficient heating or cooling systems and appliances.
- A building built with good access to public transport in mind.
- A building built with a minimum of waste in its construction and looks to maximise re-use of on-site materials such as waste soil.
- A building designed and constructed to enable its occupants to use less water, through, for example, the installation of more efficient fittings and appliances.
- A building designed to make recycling and composting easy for the occupants.<sup>1</sup>

This paper discusses the introduction of the *Sustainable and Secure Buildings Bill* in this context.

## II Liberal Democrat energy policy

The *Sustainable and Secure Buildings Bill*, Bill 15 2003-04, is sponsored by Andrew Stunell, the Liberal Democrat energy spokesman, who came first in the ballot for Private Members' Bills in the session.

The Bill received its first reading on 7 January 2004:

Mr. Andrew Stunell, supported by Sir Sydney Chapman, Sir Nicholas Winterton, Alan Simpson, Joan Walley, Brian White, Mr. Simon Thomas, Sue Doughty, Mrs. Patsy Calton, Mr. Peter Ainsworth, Paddy Tipping and Mr. David Amess, presented a Bill to make provision in relation to matters connected with

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<sup>1</sup> DEFRA Sustainable buildings initiative  
<http://www.defra.gov.uk/environment/energy/betterbuildings.htm>

buildings: And the same was read the First time; and ordered to be read a Second time on Friday 30 January, and to be printed. [Bill 15].<sup>2</sup>

The overall aim of Liberal Democrat energy policy is to guarantee a secure supply of energy to UK households and businesses, at the lowest economic cost consistent with high environmental standards and social justice.<sup>3</sup>

The Bill reflects their energy manifesto, particularly on the shaping of a policy framework for the promotion of energy efficiency, as well as directly encompassing proposals on two-way metering to encourage small-scale renewable generation, and the use of domestic and EU Building Regulations to improve the energy performance of buildings, power-consuming equipment and appliances.

The Bill elevates sustainability to the highest level for the purposes of the *Building Act 1984* by adding three new purposes for which Building Regulations may be made under the Act: to further protection of the environment; facilitate sustainable development; and further the prevention and detection of crime. The measures would apply to England and Wales.

The sponsors intend the Bill to be an enabling measure to give powers to the Secretary of State under the *Building Act* to make the Building Regulations more stringent in terms of stipulating minimum standards when new buildings are constructed or existing buildings are renovated.

Some of the provisions of the Bill revisit issues addressed in the *Sustainable Energy Bill 2002-03*, another Private Member's Bill, sponsored by Brain White. That Bill received Government support and, although it became law, was substantially amended in Committee. Certain provisions relating to sustainable housing, such as improving the standards of new build and refurbishment through revisions to the Building Regulations, and improvements to domestic energy efficiency through raised standards for boilers and heating controls, did not reach the statute book. For more information on the *Sustainable Energy Bill* and subsequent Act see the Library Research Paper and Library Notes on the intranet.<sup>4</sup>

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<sup>2</sup> HC Deb 7 January 2004 c259

<sup>3</sup> Liberal Democrats, *Conserving the future: proposals on energy policy*, Policy Paper 58, September 2003  
[http://www.libdems.org.uk/documents/policies/Policy\\_Papers/58ConservingtheFuture.pdf](http://www.libdems.org.uk/documents/policies/Policy_Papers/58ConservingtheFuture.pdf)

<sup>4</sup> The Sustainable Energy Bill, Research Paper 03/29, 26 March 2003  
<http://www.parliament.uk/commons/lib/research/rp2003/rp03-029.pdf>, and Library Note SNSC-2848  
*The Sustainable Energy Act 2003*  
[http://hcl1.hclibrary.parliament.uk/wdw/subject/subjectpage\\_briefings.asp?subject=Energy%20Conservation&subjectid=130](http://hcl1.hclibrary.parliament.uk/wdw/subject/subjectpage_briefings.asp?subject=Energy%20Conservation&subjectid=130)

### III WWF sustainable homes campaign

The Bill is being championed by WWF-UK, the organisation known by its initials and familiar panda logo that has its roots in animal conservation but now encompasses wider issues such as sustainability. WWF was the only environmental organisation invited to address heads of state at the World Summit on Sustainable Development, which took place in Johannesburg, South Africa in 2002.

WWF is spearheading interest in this area under its *One million sustainable homes* campaign. Its website explains why social and environmental action is needed in this area:

Why sustainable homes?

If everyone on the planet were to consume natural resources and pollute the environment as we currently do in the UK, we would need three planets to support us!

The majority of existing UK housing stock has significant social and environmental impacts. For example, in typical new built homes in the UK, total energy use is three-and-a-half-times more than in Denmark and Germany. In social terms, this clearly has consequences for people who have difficulty in affording to heat their homes properly. According to the Joseph Rowntree Foundation:

"Britain has around 40,000 more deaths during December and March than expected from death rates in other months of the year, which is a larger 'winter excess' than in most other European countries, including Scandinavia. This is in spite of the fact that Britain has comparatively mild winters... part of the explanation may lie with Britain's ageing housing stock, which.... may provide less protection against the cold."<sup>5</sup>

In a study for WWF-UK the concept of what constitutes a sustainable home is discussed:

The majority of the existing UK housing stock has significant social and environmental impacts. The use of inappropriate materials, the destruction of natural habitats, pollution and the excessive use of energy and water all damage the local and global environment. Reducing the environmental impact of UK homes is therefore a crucial component of moving towards sustainable development.

The concept of sustainable development can be applied to the shell of a home (including its location), or the way we live in those homes and our communities. Although there is no commonly agreed definition of what constitutes a

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<sup>5</sup> WWF One million sustainable homes campaign  
<http://www.wwf.org.uk/sustainablehomes/index.asp?text=true>

'sustainable home', in this study we have considered a range of issues which may affect the sustainability of the shell of a home, both new homes and the renovation of existing homes.<sup>6</sup>

After a period of consultation WWF found a general consensus that the Building Research Establishment's (BRE) EcoHomes standard was a good starting point to define what is a 'sustainable home'.<sup>7</sup> Feedback showed that while EcoHomes is not perfect, it does begin to address the fundamental impact of housing on the environment.

**a. BREEAM and EcoHomes**

BREEAM is the Building Research Establishment's Environmental Assessment Method. The BRE website claims it is the world's most widely used means of reviewing and improving the environmental performance of buildings. According to the BRE, since its launch in 1990 BREEAM has been increasingly accepted in the UK construction and property sectors as offering best practice in environmental design and management.<sup>8</sup>

The homes version of BREEAM is called EcoHomes, which provides a rating for new and converted or renovated homes, and covers houses, apartments and sheltered accommodation. BRE are committed to developing and improving the standard over time.

**b. Sustainable Homes Task Force**

WWF has established a 'Sustainable Homes Task Force' with key partners drawn from across a wide range of sectors. The Task Force is responsible for overseeing the strategies WWF considers necessary to overcome the 'barriers' to sustainable homes identified by the consultation.

These strategies include:

- ensuring that planning regulations facilitate the development of sustainable homes;
- ensuring that a range of fiscal incentives are introduced;
- demonstrating strong investor support for sustainable homes;
- ensuring the cost of sustainable homes is competitive;
- developing the EcoHomes standard; and
- building consumer awareness and demand for sustainable homes.<sup>9</sup>

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<sup>6</sup> Environmental Resources Management, *Fiscal Incentives for Sustainable Homes* WWF-UK, May 2002  
<http://www.wwf.org.uk/filelibrary/pdf/sustainablehomes.pdf>

<sup>7</sup> <http://www.wwf.org.uk/sustainablehomes/what.asp>

<sup>8</sup> BREEAM and EcoHomes website:  
[http://www.bre.co.uk/services/BREEAM\\_and\\_EcoHomes.html](http://www.bre.co.uk/services/BREEAM_and_EcoHomes.html)

<sup>9</sup> <http://www.wwf.org.uk/sustainablehomes/next.asp>

WWF believes that Government must provide a framework to enable sustainable homes to become standard practice across the UK by 2012: <sup>10</sup>

**1) Through leadership and vision**

A public commitment by the Government to sustainable homes will set a challenge for the UK housing sector, the construction industry and Governments internationally.

**2) As a construction client**

The Government has already demonstrated leadership through the Millennium Communities exemplar schemes, living proof of what can be achieved through multi-sector partnership. We would like Government to commit that all new homes and major refurbishments will be developed to a minimum standard of BRE EcoHomes 'Very Good'.

**3) Through Regulatory Reform**

The Government should provide fiscal incentives for the development of sustainable homes, for example through measures suggested by Environmental Resources Management (ERM) in the WWF/ERM discussion document, *Fiscal Incentives for Sustainable Homes*, May 2002. It should also offer financial support to the Housing Corporation to enable the EcoHomes 'Excellent' standard to become a mandatory requirement of new developments and major refurbishments.

WWF also spells out directly how Government might influence sustainability through the planning and Building Regulations system, heralding its platform for this Bill:

The Government should reform the planning system to ensure that sustainability lies at the heart of all planning decisions. This could be achieved by providing clear guidance in favour of sustainable developments in Planning Policy and Guidance, and by fast-tracking planning decisions for developments reaching EcoHomes 'Very Good' or 'Excellent'.

This could be achieved by providing clear guidance in favour of sustainable developments in Planning Policy and Guidance, and by fast-tracking planning decisions for developments reaching the EcoHomes 'Very Good' or 'Excellent' standards.

**Government could undertake a fundamental review of the Building Regulations in the context of sustainable development.** The relevant Planning Guidance (PPG1/PPS1) could be revised to make clear that a primary objective of the planning system is to make sure that development achieves environmental, social and economic policy objectives in accordance with the principles of sustainable development, and to require planning authorities at all levels to

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<sup>10</sup> <http://www.wwf.org.uk/sustainablehomes/government.asp>

promote sustainable construction and the highest standards of design in all new development.

In written evidence submitted to the House of Commons Environmental Audit Committee's (EAC) enquiry on the Energy White Paper,<sup>11</sup> WWF expands on this theme, in the context of achieving a lower carbon economy:

The White Paper states the Government's intentions to "... raise (building) standards over the next decade, learning lessons from the standards achieved in other comparable European countries". And "we will start work immediately on the next major revision of the Building Regulations, which we will aim to bring into effect in 2005."

What level of energy efficiency standard is the Government thinking of? After the last Building Regulations review many efficiency experts were very disappointed with the outcome—even if it did lead to significant improvements compared to the very poor previous standards.

WWF's Sustainable Homes campaign calls for housing standards to be substantially improved to the Eco-Homes "Very Good" or "Excellent" standard and we would hope that Government aims for minimum energy efficiency standards compatible with this in its next review of the Building Regulations. A new home built to EcoHomes "Very Good" standard represents an average CO2 saving of 26%, or nearly one tonne, each year over a typical new house built to 2002 Building Regulations

The "2020 vision" outlined in the introductory chapter to the White Paper states that "New homes will be designed to need very little energy and will perhaps even achieve zero carbon emissions". However, the White Paper does not make it clear whether the Government is committed to this vision—and so it is not clear whether the Government will aim for highly energy efficient or zero carbon homes. The White Paper does not outline solid plans for developing a strategy for delivering highly energy efficient or zero-carbon homes.

Cross-Government consistency—WWF was disappointed that the Sustainable Communities Plan (published just a month before the White Paper) did not go further in specifying minimum sustainable construction standards for all new and refurbished homes.

EAC recommended to the Government that reform of the Building Regulations were key to improving sustainability in buildings:

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<sup>11</sup> Environmental Audit Select Committee, *Energy White Paper - Empowering Change?* Eighth Report HC 618 2002-03 9 July 2003 Appendix 26.  
<http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmenvaud/618/61802.htm#evidence>

In reviewing the Building Regulations, the Office of the Deputy Prime Minister must incorporate not only far higher standards of energy efficiency requirements, but also requirements for the use of renewables where possible, with a view to moving towards zero space heating requirement for buildings (Paragraph 55)

The Government's response to the Committee's recommendation noted:<sup>12</sup>

35. The Building Regulations energy efficiency provisions were recently amended as part of our Climate Change Programme, and the new provisions, representing significant improvements over previous standards, came into effect in April 2002.

36. The Energy White Paper indicates our intention of raising standards even further over the next decade learning lessons from the standards in comparable European countries. As part of this, the Energy White Paper also indicated our aim of bringing the next major revision of the energy efficiency provisions in the Building Regulations into effect by 2005, and to raise the standards for boilers to the highest levels—Class A and B condensing types. In pursuing these aims we shall of course ensure that the Regulations remain proportionate, and that the performance standards they set are cost-effective (taking more account of the energy savings benefits and including the social cost of carbon emissions), sufficiently flexible for designers and without excessive technical risks. The legal requirements will continue to be given in functional terms and we are seeking to expand the guidance in the Approved documents, L1 and L2, to cover ways of compliance when proposing proven low-carbon and zero-carbon systems. This will allow for sufficient design discretion and for technical innovation.

For more information on the Building Regulations, including details of the review of energy efficiency provisions, see Library Note SNSC-1710 *Building Regulations – overview and proposed changes*.<sup>13</sup>

### **c. Sustainable Housing Forum**

WWF and the Town and Country Planning Association's (TCPA) Sustainable Housing Forum (SHF) published a report, *Building Sustainably: How to plan and construct new housing for the 21st Century*,<sup>14</sup> which states that the UK's Building Regulations and the planning system must be reformed to help bring sustainable housing into the mainstream.

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<sup>12</sup> Environmental Audit Select Committee Eighth Special Report Government Response to the Committee's Eighth Report on the Energy White Paper - Empowering Change? HC 1333 2002-03 19 November 2003

<sup>13</sup> <http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmenvaud/1333/133302.htm>  
<http://hcl1.hclibrary.parliament.uk/notes/ses/snsc-01710.pdf>

<sup>14</sup> Sustainable Housing Forum report *Building Sustainably: how to plan and construct housing for the 21<sup>st</sup> century.*, TCPA/WWF October 2003.

It calls on the Government to announce an extensive review of existing Building Regulations and the planning system.

SHF is convened by the TCPA and was set up to:

- To raise the environmental standards of new housing
- To establish what practical steps could be taken to achieve these higher standards
- To make recommendations to Government and the house building industry for the specific changes to the design and regulatory systems
- To use the drive for higher standards in new housing in order to raise public and political awareness of the long term benefits and the practical possibilities for making new construction more sustainable.

The report goes on to say that Building Regulations and the planning system do not adequately address issues such as the environmental impacts of building materials, energy and water consumption and access to good public transport. A WWF news release notes:

"The current regulations must be overhauled. The Government has committed to developing sustainable homes and communities, but the current regulatory frameworks that govern where and how new homes are built are not up to the job," said Paul King, Director of WWF's One Million Sustainable Homes campaign.

It is now possible to build houses in the UK that have zero carbon dioxide emissions. Water use is being radically reduced through innovative reuse and efficiency technologies. New housing is being designed within communities that are affordable both for people and the environment, as well as being quality places to live. The problem is that these examples are the exception rather than the rule when it comes to building new houses.

"The Government's Sustainable Communities Plan offers an unprecedented opportunity to build sustainable homes and communities on a large scale and raise the standards of house building to levels far beyond what we see today", TCPA Policy Officer Robert Shaw said.

The Office of the Deputy Prime Minister has already acknowledged that the current Building Regulations are not designed to address environmental concerns. Furthermore, the lack of clear policy guidance concerning sustainable homes and communities in the planning regulations is hampering innovation and good design. The situation must be addressed if the Government is serious about delivering sustainable communities.

This report shows that by simply changing the current Building Regulations and the planning system, that all new houses will be built to the highest standards that



make homes cheaper to run and homes that will have less environmental impact on the planet. The majority of new and existing homes in the UK have significant environmental impacts that represent a blowthreat to the global environment.<sup>15</sup>

## IV Sustainability – can we define it?

What does ‘sustainable’ mean in terms of our natural resources?

The Department of Trade and Industry (DTI) states that the sustainable use of natural resources refers to use which can be maintained at the current level now and for generations to come.<sup>16</sup>

The Performance and Innovation Unit (PIU) report on the Energy Review states that:

‘Sustainable development’ is an overarching goal of Government policy. The notion of sustainability originally stems from environmental concerns, but sustainable development is now defined in terms of trying to balance progress in high level economic, environmental and social objectives, rather than just environmental goals’.<sup>17</sup>

On 17 May 1999 the Government published *A Better Quality Of Life: a strategy for Sustainable Development in the United Kingdom*.<sup>18</sup> The strategy includes a series of around 150 indicators, including a subset of 14 key headline indicators.<sup>19</sup> Progress is monitored and published in an annual report.

The Management of Resources and the Environment indicator is based upon the assumption, that in the longer term, energy (effectively electricity) will come from new and renewable sources. Carbon intensive (fossil fuel) sources will still be required to meet the majority of primary energy demand for transport and heating purposes, but the indicator states that these should be managed in an efficient and ‘environmentally acceptable’ manner.

Other priorities and indicators relevant to the content of this Bill include:

<b>A SUSTAINABLE ECONOMY</b>	
<b>Doing more with less: improving resource efficiency</b>	
• greater resource efficiency	- UK resource use D

<sup>15</sup> WWF News Release, *Planning and Building Regulations must be overhauled*, 10 October 2003 [http://www.wwf.org.uk/News/n\\_0000001009.asp](http://www.wwf.org.uk/News/n_0000001009.asp)

<sup>16</sup> [http://www.dti.gov.uk/about/psa/psa\\_target\\_4.htm](http://www.dti.gov.uk/about/psa/psa_target_4.htm)

<sup>17</sup> PIU report on the Energy Review Para 3.9 p35

<sup>18</sup> Cm 4345 [http://www.sustainable-development.gov.uk/uk\\_strategy/content.htm](http://www.sustainable-development.gov.uk/uk_strategy/content.htm)

<sup>19</sup> *Sustainable development: the UK Government’s approach*. [http://www.sustainable-development.gov.uk/uk\\_strategy/factsheets/monitor/index.htm](http://www.sustainable-development.gov.uk/uk_strategy/factsheets/monitor/index.htm)

(6.5)	<ul style="list-style-type: none"> <li>energy efficiency of the economy (6.13)</li> </ul>	<ul style="list-style-type: none"> <li>energy efficiency of economy</li> <li>energy use per household</li> </ul>
<b>Key areas for action</b>		
<b>The home</b>		
<ul style="list-style-type: none"> <li>need housing which is more energy efficient, uses fewer resources and creates less waste (6.50)</li> <li>greater use of sustainable construction materials (6.52)</li> </ul>		<ul style="list-style-type: none"> <li>household water use and peak demand</li> <li>thermal efficiency of housing stock</li> <li>primary aggregates per unit of construction value</li> <li>construction waste going to landfill</li> </ul>
<b>Home appliances</b>		
<ul style="list-style-type: none"> <li>need more efficient appliances (6.55)</li> </ul>		<ul style="list-style-type: none"> <li>energy efficiency of new appliances</li> </ul>

In terms of energy use, the DTI's Public Service Agreement (PSA) targets for the period 2003-2006 place the issue of sustainability in the context of energy security, competitiveness, fuel poverty and environmental considerations.<sup>20</sup>

PSA target 4 states:

Ensure the UK ranks in the top 3 most competitive energy markets in the EU and G7 in each year, whilst on course to maintain energy security, to achieve fuel poverty objectives; and (joint target with DEFRA) improve the environment and the sustainable use of natural resources, including through the use of energy saving technologies, to help to reduce greenhouse gas emissions by 12.5% from 1990 levels and moving towards a 20% reduction in carbon dioxide emissions by 2010.<sup>21</sup>

## A. Environmental impact of households

According to the Energy Savings Trust (EST) the residential sector currently contributes 27% to total UK carbon dioxide (CO<sub>2</sub>) emissions associated with energy use, amounting to approximately 37.9 million tonnes of carbon (MtC) (year 2000 figure).<sup>22</sup> Every household in the UK is estimated to create around 6 tonnes of CO<sub>2</sub> each year. Over two

<sup>20</sup> The DTI PSA targets are set out in Chapter 12 of "2002 Spending Review: Public Service Agreements" (Cm 5571)

[http://www.hm-treasury.gov.uk/Spending\\_Review/spend\\_sr02/psa/spend\\_sr02\\_psadti.cfm](http://www.hm-treasury.gov.uk/Spending_Review/spend_sr02/psa/spend_sr02_psadti.cfm)

<sup>21</sup> <http://www.dti.gov.uk/about/psa/>

<sup>22</sup> Energy Saving Trust, *Quotable Facts and Figures*, EST June 2002

thirds of the emissions arise from heating and hot water. The remainder of a household's CO<sub>2</sub> emissions can largely be accounted for by household lighting and appliances, which make up around 68% of household electricity use. Lighting alone accounts for approximately 10-15% of an electricity bill. Demand from lighting and domestic appliances is set to increase by twelve per cent by 2010 with overall domestic energy use projected to rise by six per cent by the same time. Over forty per cent of all heat lost in the home is through the loft space and walls. EST estimates that if every home in the UK with gas central heating installed a new condensing boiler this would cut CO<sub>2</sub> emissions by 18.6 million tonnes.

## B. Domestic energy efficiency

Seen in such terms, the Government and campaign groups see it as essential to reduce CO<sub>2</sub> emissions from existing houses and from new homes. Energy efficiency measures are one of the main mechanisms by which the Government hopes this might be achieved. A PQ shows that annual average improvement in domestic energy efficiency has remained steady at an average of around 1.7% pa since 1990. This indicates that much more needs to be done to bring about significant improvements in the face of rising consumer demand and relatively low energy prices since the opening of the energy markets to competition.

**Mr. Stephen O'Brien:** To ask the Secretary of State for Trade and Industry by how much energy efficiency has improved in (a) the UK, (b) England, (c) Scotland and (d) Wales in each year since 1997. [146124]

**Mr. Bradshaw:** I have been asked to reply.

At present, figures are available only for the household sector, and for the UK as a whole. Figures for UK industry will be available in the spring. The household figures are:

Household energy efficiency	Improvement on previous year (percentage)
1997	2.2
1998	0.5
1999	1.3
2000	2.1
2001	2.5
2002	2.5

The figures for 2002 are provisional.

The figures fluctuate considerably from year to year, but no more than historically, with the average annual improvement over this particular period very similar to that for the whole period from 1990, around 1.7 per cent. pa.<sup>23</sup>

### C. Sustainable construction methods

According to a report by the Building Research Establishment (BRE)<sup>24</sup> the construction industry is the largest consumer of resources, especially land and energy, of all UK industries. It states that 10% of UK carbon dioxide emissions and at least 3% of UK energy consumption are attributable to the manufacture and transport of construction materials. Although some energy savings are possible through better recycling of construction wastes, energy use is intensive.

The sourcing and use of construction materials, such as timber, is only one of several impacts WWF-UK sees as significant to the construction/refurbishment of houses;

- up to 70 per cent of all timber consumed in the UK goes into the construction industry, and much of this wood comes from forests around the world that are not managed in a sustainable way;

others include:

- the widespread use of toxic chemicals in building materials, which can pose significant risks to the occupants and the wider environment;
- quarrying to provide basic raw construction materials like aggregates; and
- the inefficient use of water in houses that are not designed with water efficiency in mind.

The Government's Sustainable Communities Plan outlines a major new house building programme, designed to meet increasing demand for homes in all parts of the country.<sup>25</sup> The Government is encouraging modern methods of construction (MMC) (including prefabrication) as a way to meet the social and environmental consequences of the housing shortage by encouraging the construction industry to produce both the quantity and quality of homes needed. Research conducted by the BRE has found MMC homes to be more energy efficient because of increased levels of insulation fitted in roofs and walls, and also less air leakage. Other environmental benefits are thought to include a reduction in construction and demolition waste; transport benefits are less easy to assess

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<sup>23</sup> HC Deb 13 January 2004 c698W

<sup>24</sup> Building Research Establishment Sustainable, *Construction – developing an industry agenda – the Data*, CR258/99 2000

<sup>25</sup> ODPM, Sustainable Communities Plan  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_communities/documents/sectionhomepage/odpm\\_communities\\_page.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/sectionhomepage/odpm_communities_page.hcsp)

due to the nature and location of building sites, and their distance from sources, materials and assembly points. More information on MMC can be found in *POST Note 209*.<sup>26</sup>

The current UK Building Regulations do not specify what building materials or methods must be used, leaving this instead to the discretion of the developer in order to ensure reasonable compliance with a minimum set of performance guidance. Additionally, the measures are required to be proportionate with other legislation bearing on the construction industry, and should allow sufficient design flexibility and avoid undue technical risk.

Changes to the Building Regulations are expected by 2005, an Energy White Paper commitment, when it is anticipated energy requirements will become more stringent. MMC may well offer comparable measures to achieve compliance compared to more traditional methods.

Although legislation is one way to bring about change, much activity in the construction industry has been brought about by voluntary measures. The Sustainable Construction Task Group reviewed progress towards more sustainable construction over the last three years.<sup>27</sup> Specifically, it monitored progress against a 'ladder' of objectives set out in '*Towards Sustainability – A Strategy for the Construction Industry*.'

It concludes:

In terms of demand, from investors, construction clients and individual home owners, **economic instruments should be applied to further correct market failures**. Owner and tenant relationship problems are particularly important to resolve. In meeting demand, or simply acting professionally, some companies have made significant progress. Most have made no or limited numbers of steps towards more sustainable solutions. More and more information is available, though more needs to be provided on the business benefits of actions towards sustainability. The wealth of information and initiatives can be confusing, and this is partly due to **lack of co-ordination at Government level, where construction is spread across many departments. A co-ordinated national programme would reduce the current duplication of effort, but would be difficult to achieve considering the number of interest groups, professions and roles to be catered for.**

The Sustainable Construction Task Group hopes that such dilemmas can be addressed by Sponge, the network for young property and construction

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<sup>26</sup> Modern Methods of House Building, *POST Note 209* December 2003  
<http://www.parliament.uk/documents/upload/postpn209.pdf>

<sup>27</sup> Construction Industry Task Group *The UK Construction Industry: progress towards more sustainable construction 2000 – 2003*. October 2003.  
<http://www.dti.gov.uk/construction/sustain/sctg.pdf>

professionals. Their work underway on a critique of progress and challenges to the industry will bring a valuable insight into the future of the industry.

More information on sustainable construction initiatives can be found on the DTI site.<sup>28</sup>

## **D. Sustainable low carbon homes**

A number of developments now exist, or are underway, that will define best practice in building houses which have zero carbon emissions, such as the innovative 'BedZed' development for the Peabody Housing Trust, located in Beddington, in the London Borough of Sutton.<sup>29</sup>

Key BedZED features include:

- Where possible building materials selected from natural, renewable or recycled sources and wherever possible brought from within a 35-mile radius of the site.
- A combined heat and power unit able to produce all the development's heat and electricity from tree waste (which would otherwise go to landfill).
- Energy-efficient design - with the houses facing south to make the most of the heat from the sun, excellent insulation and triple-glazed windows.
- A water strategy able to cut mains consumption by a third - including installing water saving appliances and making the most of rain and recycled water.
- A green transport plan which aims to reduce reliance on the car by cutting the need for travel (eg through internet shopping links and on-site facilities) and providing alternatives to driving such as a car pool.
- Recycling bins in every home.

Other developments include the Hockerton project in Nottinghamshire,<sup>30</sup> the SEEDA Chatham Marine development in the Thames Gateway<sup>31</sup> and the Greenwich Millennium Village.<sup>32</sup>

## **V What has the Government done so far on sustainable homes?**

The Government has already gone some way towards recognising the environmental and social impact of buildings and homes.

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<sup>28</sup> <http://www.dti.gov.uk/construction/sustain/>

<sup>29</sup> <http://www.bedzed.org.uk/main.html>

<sup>30</sup> <http://www.hockerton.demon.co.uk>

<sup>31</sup> <http://www.seeda.co.uk/chathammaritime>

<sup>32</sup> <http://www.greenwich-village.co.uk>

## A. Building a Better Quality of Life

On 17 May 1999 the Government published *A Better Quality Of Life: a strategy for Sustainable Development in the United Kingdom*.<sup>33</sup> In April 2000 it launched *Building a better quality of life*<sup>34</sup> in partnership with industry bodies, as an action plan for changing how Britain's buildings and their supporting infrastructure are created. Its aim is to lead to more socially and environmentally responsible construction, contributing to national and international sustainable development.

The objectives include:

- Re-using existing built assets
- Designing for minimum waste
- Minimising energy use throughout the life cycle
- Avoiding pollution
- Adding to bio-diversity
- Conserving water resources
- Respecting people and communities<sup>35</sup>

## B. Achieving Sustainable Construction Procurement

In July 2000 the Government Construction Clients Panel published *Achieving Sustainability in construction procurement*,<sup>36</sup> an action plan for sustainability that has been adopted by the Office of Government Commerce, a part of the Treasury. Every UK Government department and agency has agreed to implement this action plan in full by March 2003. Government procurement accounts for 40% by value of the UK construction market.

The OGC website notes:<sup>37</sup>

"Achieving Sustainability in Construction Procurement" sets out clearly how Government clients will take forward the sustainable development agenda through better procurement of new works, maintenance and refurbishment. This will deliver better value for money for occupiers, users and the public and will

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<sup>33</sup> Cm 4345

<sup>34</sup> DETR, *Building a better quality of life: Strategy for More Sustainable Construction*, April 2000  
[http://www.dti.gov.uk/construction/sustain/bql/pdf/sus\\_cons.pdf](http://www.dti.gov.uk/construction/sustain/bql/pdf/sus_cons.pdf)

<sup>35</sup> Construction: Europa website:  
<http://europa.eu.int/comm/enterprise/construction/suscon/finrepsus/sucop5v3uk.htm>

<sup>36</sup> Sustainability Action Group of the Government Construction Clients' Panel (GCCP) *Achieving Sustainability in Construction Procurement*, June 2000  
<http://www.ogc.gov.uk/sdtoolkit/reference/achieving/sustainability.pdf>

<sup>37</sup> Office of Government Commerce Best Practice Development Centre  
<http://www.ogc.gov.uk/index.asp?id=219>

make clients and, in turn, suppliers fully aware of their responsibilities for sustainability.

The requirements centre around ten themes; essentially these are:

1. Re-use existing built assets
2. Design for minimum waste
3. Aim for lean construction.
4. Minimise energy in construction.
5. Minimise energy in use.
6. Do not pollute.
7. Preserve and enhance bio-diversity.
8. Conserve water resources – Design for increased water efficiency in building services and water conservation within the built environment.
9. Respect people and their local environment.
10. Set targets.<sup>38</sup>

### **C. Sustainable Communities Plan**

In February 2003 the *Sustainable Communities Plan: Building the Future* was published. The Government is investing £22 billion over 2002/03 to 2005/6 to improve housing and create "thriving sustainable communities".<sup>39</sup> The plan includes the commitment that, from April 2003, the social housing body the Housing Corporation will require that the new homes they fund achieve the BRE EcoHomes standard for sustainable residential development.<sup>40</sup>

### **D. Energy White Paper**

In February 2003 the Government published an Energy White Paper<sup>41</sup> which set out its vision of energy policy in the UK up until 2050. Two of its key features are to improve energy efficiency and to work towards cutting emissions of carbon dioxide, which are linked to climate change, by 60% by 2050.

Almost half of the UK's carbon dioxide emissions come from buildings; homes account for almost thirty per cent of this amount. The White Paper contains the aspiration to

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<sup>38</sup> Construction: Europa website:  
<http://europa.eu.int/comm/enterprise/construction/suscon/finrepsus/sucop5v3uk.htm>

<sup>39</sup> ODPM Sustainable Communities website:  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_communities/documents/page/odpm\\_comm\\_023261.hcs](http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/page/odpm_comm_023261.hcs)

<sup>40</sup> DTI/DEFRA, *The Energy White Paper-Our Energy Future-Creating a Low Carbon Economy*, February 2003 para 3.18  
<http://www.dti.gov.uk/energy/whitepaper/index.shtml>

<sup>41</sup> DTI/DEFRA, *The Energy White Paper-Our Energy Future-Creating a Low Carbon Economy*, February 2003  
<http://www.dti.gov.uk/energy/whitepaper/index.shtml>



reduce carbon emissions from homes by 4-6 million tonnes a year by 2020. Better building standards are seen as key to helping meet this goal. Chapter Three of the White Paper sets out an agenda for policy on energy efficiency including targets for individual items and illustrating where savings might be achieved:

- progressively raising efficiency standards to that of the most efficient boiler type condensing boilers, and installing around 5 million, saving around 0.6MtC;
- insulating around 4.5 million cavity walls from 2005-2010, saving around 1.2 MtC;
- installing an extra 100 million energy saving lights, beyond the 60 million already anticipated by 2005, saving around 0.5MtC;
- faster improvements in the standards of new household appliances and significantly increasing the uptake of A-rated appliances, which could save around 0.4MtC; and
- other insulation measures, improved heating controls, **improved standards of new build and refurbishment through revisions to the Building Regulations**, and community heating with CHP, saving around 1MtC.

As noted, the Environment Audit Select Committee, in its eighth report examining the Energy White Paper, recommended that the Building Regulations should incorporate not only far higher standards of energy efficiency in buildings, but also requirements for the use of renewables where possible.<sup>42</sup>

For its part the Sustainable Development Commission<sup>43</sup> believes that the Government's target of cutting carbon dioxide emissions by 20% by 2010 will be missed by a wide margin, mainly because coal and household energy use will be higher than forecast.

## E. Review of the Building Regulations

The Energy White Paper contained a number a specific commitments, including a review of the Building Regulations to take place by 2005.

Raising standards over the next decade, learning lessons from the standards in comparable European countries (Para 3.12)

Raising the standard required for new and replacement boilers to SEDBUK classes A or B (Para 3.13). The Government has since decided to bring this provision into effect by 01 April 2005.

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<sup>42</sup> Environment Audit Committee, *Energy White Paper-Empowering Change*, 22 July 2003, HC 618 2002-03, recommendation 17, para 55.

<http://pubs1.tso.parliament.uk/pa/cm200203/cmselect/cmenvaud/618/61802.htm>

<sup>43</sup> Sustainable Development Commission, *UK Climate Change Programme: a policy audit*, February 2003, available at

<http://www.sd-commission.gov.uk/pubs/ccp/eccm/index.htm>

Starting immediately on the next major revision of Part L,<sup>44</sup> with the aim of bringing this into effect in 2005 (Para 3.16).

Seeing how the enforcement system might be improved to enable better correlation between design standards and as-built performance (Para 3.20).

The 2002 editions of Approved Documents L1 and L2 of the Building Regulations, relating to the conservation of fuel and power in domestic and non-domestic settings respectively, brought major improvements in energy performance standards in the Building Regulations. These changes were designed to be the first of a four stage programme of improvement in the requirements and associated approved guidance that were expected to be introduced in the period up to around 2008. However, the Energy White Paper has brought the timetable forward.

The ODPM has posted an informal response on the sorts of improvements that could be achievable in the amendment proposed for 2005.<sup>45</sup> A separate Adaptation Strategy paper relative to Part L is being prepared, and this will be used to inform the Part L review. Formal consultations on firm proposals will need to be carried out during the summer of 2004, not April 2007 as originally planned.

Further information on Part L of the Regulations can be found in two Library Notes: SNSC-1167 *Part L-Energy Efficiency*<sup>46</sup> and SNSC-1675 *Part L-Glazing*.<sup>47</sup>

## **F. EU Directive on Energy Performance of Buildings**

Factors that will influence the review of Building Regulations are the EU Directive on the Energy Performance of Buildings (EPBD),<sup>48</sup> which requires transposition into UK law by January 2006,<sup>49</sup> and the need to consider how building design and construction practice might need to adapt to the impacts of changing climate.

The EPB Directive aims to promote the improvement of the energy performance of new and existing buildings, taking into account outdoor climate and local conditions as well as indoor requirements and cost-effectiveness. Via a series of Articles, it sets out requirements covering the following issues:

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<sup>44</sup> Part L of the Building Regulations deals with the conservation of fuel and power in buildings.

<sup>45</sup> Possible Future Performance Standards for Part L. ODPM October 2003  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_024792-01.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_024792-01.hcsp)

<sup>46</sup> <http://hcl1.hclibrary.parliament.uk/notes/ses/snsc-01167.pdf>

<sup>47</sup> <http://hcl1.hclibrary.parliament.uk/notes/ses/snsc-01675.pdf>

<sup>48</sup> Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings, OJ L 001 04/01/2003 P. 0065 – 0071  
[http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l\\_001/l\\_00120030104en00650071.pdf](http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_001/l_00120030104en00650071.pdf)

<sup>49</sup> Further information can be found at the DEFRA website:  
<http://www.defra.gov.uk/environment/energy/internat/ecbuildings.htm>

- A methodology for calculating the energy performance of buildings.
- Setting energy performance standards for new and existing buildings.
- Requiring more consideration of low-carbon and zero-carbon systems when constructing larger non-domestic buildings.
- Introducing requirements for producing building energy certificates whenever buildings are built, leased or sold.
- Setting up an inspection system for boilers rated at more than 20kW (or an information system that achieves similar results).
- Setting up a routine inspection system for air conditioning systems of more than 12kW rated output.<sup>50</sup>

Effectively, every building will be graded according to its energy efficiency; certificates could then be shown when the building is later bought or sold.<sup>51</sup> A requirement of the current *Housing Bill*<sup>52</sup>, arising from the Directive, to include an energy audit in Home Information (or seller's) Packs, has been put on hold. More information on seller's packs can be found in SNSC-2836 *Home Information Packs-Energy Audits*.

The Directive has been given impetus by the European Commission in its Green Paper "Towards a European Strategy for Energy Supply",<sup>53</sup> which highlighted the importance of savings in the building and transport sectors in reducing greenhouse gas emissions. It noted that the domestic and service<sup>54</sup> sectors were the largest overall users of energy, mainly for heating, air conditioning, lighting and equipment and that there was the potential for large savings, of the order of 22% of present consumption by 2010, from the so called 'building envelope' and its installations.<sup>55</sup> The Commission noted that measures that could bring about the required savings include, for the building structure: better insulation; replacement of old boilers with more efficient models; more efficient components and controls for lighting and air conditioning systems; and use of environmentally friendly energy generation installations.

Because the issues surrounding implementation of the Directive are broader than the aspects of building design and construction covered by Part L, and because they apply in Scotland and Northern Ireland as well as England and Wales, the OPDM will publish a series of separate strategy papers in due course.

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<sup>50</sup> Possible Future Performance Standards for Part L: ODPM October 2003  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_024792.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_024792.hcsp)

<sup>51</sup> "The arguments over insulations are hotting up", *Financial Times*, 3 November 2003

<sup>52</sup> Housing Bill [Bill 11] 2003-04  
<http://www.parliament.uk/commons/lib/research/rp2004/rp04-002.pdf>

<sup>53</sup> Towards a European Strategy for the security of energy supply Green Paper COM(2000)769 final  
[http://europa.eu.int/comm/energy\\_transport/doc-principal/pubfinal\\_en.pdf](http://europa.eu.int/comm/energy_transport/doc-principal/pubfinal_en.pdf)

<sup>54</sup> Includes offices, schools, hospitals, wholesale and retail trade, hotels, restaurants, leisure facilities but not industrial buildings.

<sup>55</sup> Heating, ventilation and cooling systems.

As well as the EPB Directive, the BRE, on behalf of the DTI, has identified and assessed the implications of the following EU legislation for their impact on sustainable construction:

- EC Regulation No. 2037/2000 Substances that Deplete the Ozone Layer;
- The EU Landfill Directive on the Landfill of Waste (1999/31/EC);
- Directive of the European Parliament and of the Council amending Directive 94/62/EC on packaging and packaging waste;
- Directive 2000/60/EC Establishing a Framework for Community action in the field of Water Policy: The Water Framework Directive; and
- Directive 98/8/EC: Biocidal Products Directive.<sup>56</sup>

## **G. Future Performance - Part L of the Building Regulations**

A **Future Thinking Paper** has been produced by officials at the Office of the Deputy Prime Minister (ODPM) as a basis for discussions with industry on the standards to be set in 2005, particularly with regard to Approved Documents L1 and L2.

One of the stated objectives is *"to put ourselves on a path to cut UK's CO<sub>2</sub> emissions by some 60% by about 2050, with real progress by 2020"*. Given the significant contribution that buildings make to national CO<sub>2</sub> emissions, building energy efficiency standards will have to improve significantly over the coming decades.<sup>57</sup>

Quoting from the Foreword, the Minister with responsibility for the Building Regulations, Philip Hope, is well aware of the need to make rapid progress in this area:

“However we shall have to go harder and faster. We need to formally consult in the middle of next year if changes are to be brought into effect in 2005, and the changes must this time include incorporation of the relevant requirements of the Energy Performance of Buildings Directive”.

It is worth bearing in mind that the UK has some of the oldest housing stocks in Europe. The Building Regulations, as they apply to new properties, already include fairly stringent environmental requirements and there is a view that attempts to reduce domestic emissions may be better focused on amending existing housing stock. The Forward Thinking document notes:

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<sup>56</sup> DTI Construction Industry Directorate Project Report : Final Report on EU Directives Project report number 209-971 CD Framework: Sustainable Construction Supporting an Industry Agenda for more Sustainable Construction CC 36/8/364 Final Report, BRE Environment 23 January 2003 <http://www.dti.gov.uk/construction/sustain/eu.pdf>

<sup>57</sup> Possible Future Performance Standards for Part L: ODPM October 2003 [http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_024792.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_024792.hcsp)

There are around twenty four million existing dwellings and the average SAP Rating of this stock is around 44. New dwellings built to the 1995 standards were achieving SAP Ratings on average perhaps around 75, and those being designed to the 2002 standards may be achieving SAP Ratings up to around 90. However less than 200,000 new dwellings are being built in the UK each year. *Examining how further encouragement can be given towards improving the average SAP Rating of the existing stock is therefore seen to be a vital element of this review.*

The Future Thinking document also includes revised measures of assessing the social cost of carbon emissions and the cost-benefits of the proposed changes:

### **Carbon pricing**

In the Stage 1 Review the Government included in its Regulatory Impact Assessment (RIA) a qualitative assessment of the environmental cost of carbon emissions.

Since then, the Government has published a comprehensive review of quantitative estimates of the social costs of carbon emissions.<sup>58</sup> Government has accepted that for policy development purposes, the social cost of carbon should be factored into the cost benefit analysis. This social cost is based on a figure of £70 per tonne of carbon emitted (in 2000 price levels)<sup>59</sup> and that this value should be increased at £1 per year thereafter before adjustments are made to take account of general inflation.<sup>60</sup> This additional social cost, which arises whenever non-renewable fuels containing carbon are used, will therefore be taken into account as part of the future basis of setting Part L standards. This will mean that more measures will be shown to be cost effective than when using current market prices for the various fuels.

### **Present value calculation of cost-effectiveness**

The Government uses the Discounted Cash Flow Analysis Method to establish the costs and benefits of proposed measures on an even basis - the "present value". To date Government has used a 6% test discount rate to determine present values. In the new edition of the Green Book published by HM Treasury<sup>61</sup> the test discount rate is 'unbundled' so that the new rate of 3.5% reflects only one factor, the social time preference rate. (The current rate of 6% implicitly takes account of such other factors as risk, optimism bias, and the cost of variability. The advice now is to deal with these separately and explicitly - and, for the purposes of regulatory impact assessments for the Building Regulations, these other factors will now be excluded from the calculations.

The lower test discount rate means the present value of avoiding longer-term environmental impacts will be more significant by comparison with initial investment costs. Higher building performance standards than could previously be justified will therefore prove to be cost-effective.

### **Embodied energy**

Embodied energy in building materials and building services plant can represent a significant element of the lifecycle energy budget of a building and the aim is to address

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<sup>58</sup> Government Economic Service, *Estimating the Social Cost of Carbon Emissions*, Paper No 140 [http://www.hm-treasury.gov.uk/documents/taxation\\_work\\_and\\_welfare/taxation\\_and\\_the\\_environment/tax\\_env\\_geswp140.cfm](http://www.hm-treasury.gov.uk/documents/taxation_work_and_welfare/taxation_and_the_environment/tax_env_geswp140.cfm)

<sup>59</sup> The paper also recommends consideration of a sensitivity range of between £35/tC and £140/tC

<sup>60</sup> In 2003, for instance, and assuming the average rate of general inflation is 2.5%, the price becomes  $(70 + 3) \times 1.0253 = £78.61$  per tonne emitted per annum at 2003 prices

<sup>61</sup> <http://greenbook.treasury.gov.uk/>

this in Building Regulations within the coming decade. Although it is considered desirable that this energy and carbon burden should be addressed however, it is considered that the analysis procedures and supporting data are not yet sufficiently developed for this to be considered in quantifiable terms for the revision planned for 2005.

To take matters forward we therefore propose :-

to carry out a study on how sustainability indices could be included in the Building Regulations, where practicable, to include qualitative assessments in the 2005 Regulatory Impact Assessment, and to propose provisions for addressing embodied energy in Part L (or as an additional issue covered by Regulation 7 (workmanship and materials)) when the accounting methods and data are sufficiently well developed.

## H. Better Buildings Summit

Another Energy White Paper commitment was to bring together the key players in the housebuilding and construction industries in a new working group to consider how best to improve the sustainability of all aspects of construction and design, including off-site construction and low carbon technologies. Representatives would also be brought together in a Better Building Summit, to be jointly convened and chaired by Ministers from the ODPM, DEFRA and the DTI.

The **Better Buildings Summit** took place on 21 October where the Deputy Prime Minister called on industry leaders to drive up standards in the built environment, to take forward commitments set out in the Energy White Paper and the Sustainable Communities Plan.<sup>62</sup> More information about the summit can be found at the DTI website.<sup>63</sup>

An outcome of the summit was the establishment of the new **Sustainable Buildings Task Force**, announced by Environment Secretary Margaret Beckett on 21 October 2003. The aim of the Group is to:

Pinpoint ways in which industry and Government can work together to promote sustainable development through better environmental performance in new and existing buildings, and improve significantly performance on key issues including water, energy, waste and building materials such as timber.<sup>64</sup>

The Group will investigate four areas where there is need for improvement including energy use. Its remit is to identify specific cost-effective improvements in performance which industry can deliver along with the action the Government can take to facilitate progress. The Group will report to Ministers by February 2004 which is the first anniversary of the Government's Sustainable Communities Plan and the Energy White

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<sup>62</sup> ODPM News Release, *Government announces concerted action to drive up standards in the built environment*, 21 October 2003.

<sup>63</sup> <http://www.dti.gov.uk/construction/betterbuildings.htm>

<sup>64</sup> Defra press notice 432/03, *Beckett sets up new Sustainable Buildings Task Group*, 21 October 2003

Paper. Its membership was announced on 21 November; Sir John Harman, Chairman of the Environment Agency and Victor Benjamin, Deputy Chairman of English Partnerships, will co-chair the new Sustainable Buildings Task Group.<sup>65</sup>

The DEFRA website notes that key drivers for the summit and for further consideration by the Task Group include:<sup>66</sup>

- Buildings contribute almost half - about 46% - of the UK's carbon dioxide emissions. Our homes alone contribute about 27%.
- Demand for water has risen and continues to rise. More than half - 56% - of water supplied is used by households.
- Buildings also have significant impacts in terms of the use of natural resources such as timber and materials in their construction; and construction and demolition waste is a significant waste stream.
- Demand for housing continues to grow, meaning increasing pressure to find land for development.

On the same day as the summit, the Government also announced a **new industry training programme** in partnership with the Energy Saving Trust, which will help the heating industry prepare for changes to Building Regulations in April 2005. The Energy Saving Trust, in partnership with the Learning and Skills Council, the heating industry, the Energy Efficiency Partnership for Homes, CORGI and City and Guilds is launching the Energy Efficiency Installer Certificate which aims to train 70,000 installers about the benefits of high efficiency heating systems.<sup>67</sup>

## VI The Building Act 1984 and Building Regulations

The Building Regulations impose requirements on people carrying out certain building operations. Although the statutory framework of building control is the *Building Act 1984 (c.55)* the *Building Regulations SI 2531/2000* (as amended) contain the most recent rules and procedures. The 2000 Regulations implement the final conclusions of a major review of the technical and procedural requirements, and revoke and replace the *Building Regulations SI 1991/2768* and consolidate all subsequent amendments to those Regulations.

The Regulations are short and contain no technical detail. Instead, the technical requirements are supported by documents approved by the Secretary of State under Section 6 of the *Building Act 1984*, intended to give non-statutory practical guidance on how to comply with the requirements. The Approved Documents (AD) A to N include

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<sup>65</sup> Defra press notice 490/03, *Sustainable Buildings Task Group line-up revealed*, 21 November 2003 <http://www.dti.gov.uk/construction/newsrel.doc>

<sup>66</sup> <http://www.defra.gov.uk/environment/energy/betterbuildings.htm>

<sup>67</sup> Energy Saving Trust News Release, *New Industry Training Programme Strengthens Government Commitment to Energy White Paper*, 21 October 2003



references to non-statutory guidance material such as British Standards and Building Research Establishment publications and give designers and builders a great degree of flexibility in how to interpret the requirements.

Overall, obligations imposed by the building regulations are not absolute, but a duty to use reasonable skill and care to secure reasonable standards of health and safety of people using the buildings and who otherwise may be affected by failure to comply with the requirements of the regulations. This is the limitation of the ethos as spelt out in Regulation 8. Latterly, the regulations also promote energy efficiency in buildings and contribute to meeting the needs of disabled people.

The Building Regulations are not intended to be a benchmark for workmanship. Regulation 7 states that building work shall be carried out:<sup>68</sup>

- (a) with adequate and proper materials which -
  - (i) are appropriate for the circumstances in which they are used;
  - (ii) are adequately mixed or prepared; and
  - (iii) which are applied, used or fixed so as adequately to perform the functions for which they are designed; and
- (b) in a workmanlike manner.

## **A. Scope of the Act and Regulations**

Section 1 of the *Building Act 1984* gives the Secretary of State the power to make Building Regulations. They may be made for the following broad purposes:

1. Securing the health, safety and welfare and convenience of people in and about buildings and of others who may be affected by buildings or matters connected with buildings.
2. Furthering the conservation of fuel and power.
3. Preventing wastes, undue consumption, misuse and contamination of water.

This Bill seeks to add sustainability, security and crime reduction measures to the purposes for which building regulations may be made.

The Act itself defines buildings in the widest sense: “any permanent or temporary building, and unless it requires it, includes any other structure or erection<sup>69</sup> of whatever

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<sup>68</sup> Approved Document to Support Regulation 7 Materials and Workmanship: 2000 edition. TSO. 1999 Edition, amended 2000. Published by TSO, 1999. ISBN 0-11-753482-X. £4.95  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_600282.pdf](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_600282.pdf) as implemented by The Building Regulations (Amendment) Regulations SI 1999/71  
<http://www.legislation.hmso.gov.uk/si/si1999/19990077.htm>

<sup>69</sup> Structure or erection includes a vehicle, vessel, aircraft or any other moveable object prescribed by the SoS in circumstances which justify treating it as a building.



kind or nature, whether permanent or temporary”. As a result many things which would otherwise not be thought of as buildings may fall under the Act, such as garden walls, fences, radio masts and other tower-like structures. A wide statutory definition is required for general purposes, such as giving local authorities powers to deal with dangerous structures.

In general terms and in common law, a building ordinarily means ‘a structure of considerable size intended to be permanent or at least to last for a considerable time’.<sup>70</sup> For the purposes of the regulations a narrower definition is employed: "building" means any permanent or temporary building but not any other kind of structure or erection, and a reference to a building includes a reference to part of a building. Hence walls, fences, silos and the like are not controlled.

Building work and material alterations to buildings are defined under the Regulations. Schedule I of the 1984 Act makes it possible to apply the regulations not only to new work but to the whole building, including alterations, extensions and major reconstruction, fittings connected with existing buildings, and material change of use.

The Regulations also make it clear that building work must not leave the building in a worse state than before the work is commenced:

#### **Requirements relating to building work**

4. - (1) Building work shall be carried out so that -
- (a) it complies with the applicable requirements contained in Schedule 1; and
  - (b) in complying with any such requirement there is no failure to comply with any other such requirement.
- (2) Building work shall be carried out so that, after it has been completed -
- (a) any building which is extended or to which a material alteration is made; or
  - (b) any building in, or in connection with, which a controlled service or fitting is provided, extended or materially altered; or
  - (c) any controlled service or fitting, complies with the applicable requirements of Schedule 1 or, where it did not comply with any such requirement, is no more unsatisfactory in relation to that requirement than before the work was carried out.

The Bill seeks to ensure that in certain circumstances large scale repair and renovation work should comply with the same standards of sustainability and crime protection as new work rather than simply ensuring that it is must be no worse a standard than before the repairs.

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<sup>70</sup> *Stevens v. Gourelly* (1859) 7 CBNS 99

## 1. Crown immunity

The Building Regulations do not apply to premises that are occupied by the Crown. The general position is that a statute does not bind the Crown unless it expressly says so or is provided by implication. Under Section 44 of the *Building Act* there is provision that substantive parts of the Regulations can apply to Crown buildings but this has never been activated.

Many premises have now lost their Crown immunity; this includes the National Health Service estate,<sup>71</sup> the Metropolitan Police and Post Office Counters.<sup>72</sup> Government buildings are largely designed and constructed in accordance with the Building Regulations; scrutiny of plans and particulars can be undertaken by local authorities but in practice work is usually overseen by specialist agencies which also carry out on-site inspections. They have no rights to take enforcement action in the event of breach of regulations.

The Bill seeks to remove Crown immunity from the Building Regulations.

## 2. Exempted buildings and services

Under Section 5(2) of the *Building Act* certain prescribed buildings and services may be wholly or partially exempted from the requirements of the Regulations. The Secretary of State may also by direction exempt any particular building or buildings at a location.

### *Educational Buildings*

Schools are not now exempt from the Building Regulations since the repeal of Regulation 8 of the *Education (Schools and Further and Higher Education) Regulations 1989*. The Department for Education and Skills has issued guidance on constructional standards for schools to supplement the Approved Documents, which it is hoped will be incorporated into future ADs in due course.

The Bill seeks to remove the exemption from all other educational establishments.

### *Statutory undertakers and public bodies*

Under Section 4 of the *Building Act*, buildings belonging to a 'statutory undertaker' (as defined by Section 126 of the Building Act, such as electricity substations), the United Kingdom Atomic Energy Authority, or the Civil Aviation Authority (CAA), are exempt from the Building Regulations. The buildings must be held for the purposes of the undertaking; house, offices or showrooms are not exempt unless they form part of a railway station, or in the case of the CAA, are on an aerodrome owned by the CAA, with the exception of airport hotels.

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<sup>71</sup> S. 60 *National Health and Community Care Act 1990*

<sup>72</sup> Royal Mail is still regarded as Crown property.

The Bill seeks to bring the buildings belonging to statutory undertakers under the Regulations.

Since privatisation, many former public bodies (as defined by Section 8 of the Act) are not now regarded as statutory undertakers under section 4 of the Act. The Post Office lost its statutory undertaker status in relation to the Regulations, in March 2001. Local authorities are not exempt from either the procedural or technical requirements of the Regulations.

#### *Metropolitan Police*

The *Building Regulations (Amendment) Regulations* SI 2000/1554 exempt the Metropolitan Police from the procedural requirements of the Building Regulations, although it is still required to comply with the technical requirements. It is also exempt from enforcement procedures by local authorities.

Type relaxations in whole or part may be granted by the Secretary of State, subject to conditions or for a limited time only, subject to consultation with interested bodies.

### **3. Exempt Buildings and Work Class VII**

In addition to exemptions for prescribed buildings and services, buildings and work in seven classes are exempt from the Regulations in order to reduce the extent of control, and hence burdens, of the Regulations.

The full list of exempt buildings is contained in Schedule 2 to the Building Regulations. In general these are: detached buildings not normally used by people (e.g. plant and machinery housing); agricultural buildings; animal husbandry units; greenhouses; temporary buildings; ancillary site buildings; small detached buildings without sleeping accommodation, and ground level extensions no larger than 30m<sup>2</sup> such as porches, conservatories, covered ways and open carports. The Regulations would only apply to work done on these classes if it involved a change of use to a class which takes the building out of exemption; e.g. a barn conversion.

Certain buildings are exempt because they are controlled by other legislation:

- Buildings subject to the *Explosives Acts 1875 and 1923*
- Buildings (other than dwellings, offices or canteens) on a site licensed under the *Nuclear Installations Act 1965*
- Buildings scheduled under section 1 of the *Ancient Monuments and Archaeological Areas Act 1979*

## **B. Heating appliances**

In the UK there is no minimum heating standard for housing and no requirement in either building or environmental health standards for homes to contain heating systems.

Part J of the Building Regulations covers combustion appliances, including gas and oil fired boilers and central heating furnaces, and chimney and venting apparatus. In the Energy White Paper, it was announced that the Office of the Deputy Prime Minister will raise the energy performance standard of boilers even further to the level of the most efficient A and B-rated types of condensing boilers from 1 April 2005 as part of the review of the Building Regulations. The EWP illustrated

A condensing boiler is essentially the same as a normal fan-flued boiler except that it has a larger heat exchanger, which is able to absorb more of the heat from the burner and flue gases. When the circulating water is cool enough to cool the gasses below 54°C the flue gases condense and release latent heat back into the boiler; this would otherwise be wasted. The gases coming out of a conventional boiler flue are generally 250-300°C whereas in a condensing boiler they are around 50-60°C so the potential energy savings is clear.

how the installation of 5 million such boilers by 2010 could achieve savings of 0.6 million tonnes of carbon per year. As noted, DEFRA has announced a new skills and training programme for heating installers to boost progress on energy efficiency.

The ODPM Forward Thinking document notes:

For domestic gas boilers used for space-heating systems, the EWP has indicated that the standard for normal circumstances will be increased to SEDBUK<sup>73</sup> Band A or B (i.e. a seasonal efficiency  $\geq 86\%$ ), which is equivalent to a condensing boiler.<sup>74</sup>

The Government has indicated that it wants this higher standard brought into effect by 1 April 2005 so that boilers can be removed from the prospective new Energy Efficiency Commitment signalled in the EWP. The Future Thinking document notes:

We shall therefore be developing proposals for an interim amendment timed to come into effect on 01 April 2005 that revises the guidance in ADL1 (2002). The aim is to consult on this as part of the general consultation on Part L in the summer of 2004, and then to fast-track the review and approval process to enable the amendment to be published around February 2005.<sup>75</sup>

The document goes on to explain further changes that will be required under the Regulations with regard to boilers:

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<sup>73</sup> SEDBUK stands for "Seasonal Efficiency of Domestic Boilers in the UK", and is an industry standard for measuring and publishing the thermal efficiency of a boiler. SEDBUK was developed under the Government's Energy Efficiency Best Practice Programme with the co-operation of boiler manufacturers, and provides a basis for fair comparison of the energy performance of different boilers. A boiler efficiency database that allows comparisons between boilers can be found on the SEDBIK website: <http://www.sedbuk.com/>

<sup>74</sup> Possible Future Performance Standards for Part L: ODPM October 2003

Because the impact of improved heating system efficiency is greatest the poorer the insulation standards of the house, (longer heating season and greater heating demand), it could be argued that higher standards should be set for replacement boilers than for those included in new dwellings. However, there is currently no real technical distinction between boilers rated at SEDBUK A and SEDBUK B and so this may not be practical.

We believe that lower SEDBUK standards will be justified in some exceptional circumstances, especially for replacement boilers in existing dwellings where there may be flueing or condensate drain problems or other significant structural and décor barriers and in dwellings away from the gas grid or with solid or oil fuelling by choice. Industry is working to identify these exceptional building situations in terms of the practical difficulties and the extra overcosts involved. *In due course a paper will be presented making recommendations on the cut-off point when the extra costs make condensing boilers non-cost-effective, and hence the standard of what would be reasonable provision post March 2005.* As part of this however we would be looking to obtaining best practical performance from non-condensing boilers. *We therefore think that, in addition to defining when non-condensing boilers replacements are allowed, ADL1 should call for the controls package to be upgraded to the standards applying to new dwellings.*

*It will be necessary as part of this to introduce separate provisions for different classes of boilers such as back boilers, combi-boilers and central hot water storage units, and boilers fired with LPG, oil, or solid fuel.* Multi-fuel solid fuel boilers will need particular consideration, given the very different carbon intensity of the alternative fuels (coal, wood and wood pellets).

We also think it essential to make reasonable provision when microCHP units (or other new heating technologies) are to be installed. *As part of this process, SAP 2001 will need to be updated to reflect the performance of mature new technologies as well as to align it with the requirements of the EPBD.*

## C. Ventilation and cooling

Part F of the Building Regulations relate to means of adequate ventilation in domestic and non-domestic properties, and methods to reduce condensation in roofs.

Parts L1 and L2 of the Building Regulations relate to the conservation of fuel and power in dwellings and non-domestic buildings. As such they impose higher requirements for thermal insulation in buildings, which has a direct bearing on building comfort and the requirement for air conditioning. Part L also makes new provisions aimed at limiting solar overheating, along with air conditioning and mechanical ventilation measures to ensure that, when specified, they can perform efficiently, including specifications for new zone controls in dwellings.

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<sup>75</sup> Possible Future Performance Standards for Part L: ODPM October 2003  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_buildreg/documents/page/odpm\\_breg\\_024792.hcsp](http://www.odpm.gov.uk/stellent/groups/odpm_buildreg/documents/page/odpm_breg_024792.hcsp)

Lord Hunt of Chesterton asked a Starred Question in the House of Lords on sustainable use of energy for heating and air conditioning:

Given that heating and cooling buildings consume approximately half of all the energy used in the UK, what targets the government have for making changes in building regulations to ensure that future designs will use less energy and become more sustainable.<sup>76</sup>

In a wide ranging reply, Lord Rooker noted:

My Lords, in October 2001 we made significant improvements to the energy provisions in the building regulations, which took effect in April 2002. The changes affect both heating and cooling demand. An announcement about further changes will be made in the forthcoming energy White Paper. As well as targeting the construction of new buildings, we are applying the regulations to more work on the existing stock.<sup>77</sup>

Under the Energy Performance in Buildings Directive, Member States will have to establish methods to calculate the energy performance of buildings, which must take account of the positive effects of electricity from cogeneration (combined heat and power) and of district or block heating/cooling systems.

Apart from changes to the Building Regulations that will support the general aims of sustainable construction in buildings, a number of specific measures are also supported in the Bill, as follows:

## **VII Renewable technologies**

Renewable energy technologies are at a stage where they can play a major part in supplying domestic energy needs. Three main technologies are explored as Appendices to this paper.

## **VIII Water conservation measures**

Pressure on water resources is likely to increase and there is considerable potential for increased water efficiency in the building stock. The main gains for more sustainable construction will come from incorporation of more water-efficient building services. This can include specifying low flow showers, sprinkler taps and dual flush WCs, or include more comprehensive applications such as grey water recovery, rainwater recovery and drainage control.

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<sup>76</sup> HL Deb 20 February 2003 c1266

<sup>77</sup> *ibid*

Water audits of existing buildings will show where savings in water use can be made when refurbishing existing buildings. More information on water conservation is found in an Appendix to this paper.

## IX Home security measures

Police forces provide crime prevention advice, through crime prevention or reduction officers, and many provide relevant information on their websites. Individual forces determine how they should do this. The Home Office also provides advice on crime prevention on its website.<sup>78</sup> Duties of a crime prevention officer might include the inspection of property where there are special or difficult security features, and giving advice on security to builders and architects in the planning stages of buildings and, if necessary, to survey premises from plans.<sup>79</sup>

Under section 17 of the *Crime and Disorder Reduction Act 1998*, local authorities, police authorities and some other authorities have a duty to exercise their functions “with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area.” This would include planning departments of local authorities. Guidance on this is provided on the Home Office website<sup>80</sup> and further information is available in guidance produced by NACRO and the Local Government Association.<sup>81</sup>

Improvements in home security are central to a number of national and local schemes including:

- The Warm Front Team;
- The Crime Reduction Programme;
- The Here to Help Programme.

Information is contained in an Appendix to this paper.

## X Fiscal measures

Although not covered in the Bill, it is instructive to be aware that there is a range of fiscal measures, some still under consideration, which might be effective in reducing domestic energy emissions in the immediate future including:

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<sup>78</sup> <http://www.homeoffice.gov.uk/crimpol/crimprev/index.html>

<sup>79</sup> Jack English and Brian English, *Police Training Manual*, 2000 p 520

<sup>80</sup> <http://www.crimereduction.gov.uk/legislation01.htm>

<sup>81</sup> [http://www.lga.gov.uk/Documents/Briefing/Our\\_Work/reg\\_affairs/crime.pdf](http://www.lga.gov.uk/Documents/Briefing/Our_Work/reg_affairs/crime.pdf)

- A reduced rate of VAT to 5 per cent for the supply and installation of energy efficient products or materials in no-grant schemes when households employ contractors
- A 'domestic business tax allowance', allowing private landlords to claim investment in energy-saving materials against profits.
- A tax allowance for companies training installers of energy-saving equipment.
- Capital allowances for energy saving equipment.

These are explored as an Appendix to this paper.

## **XI The Bill**

The Bill will be available electronically, accompanied by Explanatory Notes that will cover it in detail. Neither was available at the time of publication of the paper. The following is an overview of the contents of the Bill based on discussion with Andrew Stunell's office.

In summary:

The Bill aims to make buildings of all sorts 'greener' and 'safer'. It does this by strengthening the regulations on new, extended and altered buildings to require sustainability and crime reduction measures to be applied as a matter of course. It will bring into regulation schools and public utilities currently exempt, together with major repair and renovation works which are now partially exempt.

It will cover services within and around a building, and not just the structure itself.

In addition it requires the Government to report to Parliament on the extent to which sustainability and crime reduction measures have improved the building stock.

The Bill will do five things:

1. It gives new powers under the *Building Act 1984* to improve the sustainability of buildings, currently responsible for around 30% of carbon emissions in the UK (more than the transport sector), and in general notoriously inefficient.
2. It gives new powers to improve the crime-resistance and security of buildings, where there are at present no statutory requirements to comply with police advice.
3. It gives powers to require that in certain circumstances large scale repair and renovation work should comply with the same standards of sustainability and crime resistance as equivalent new building work (at present it must simply be to no worse a standard than before repairs).



4. It brings into the scope of Building Regulations certain types of building that are currently exempted, including schools and operational buildings owned by public utilities.<sup>82</sup>

In more detail:

The overall aim of the Bill is to make buildings safer and more sustainable by strengthening measures in the Building Regulations and applying them to new, extended and altered buildings as a matter of course.

**Clause 1(1)** adds three new purposes for which building regulations may be made under subsection (1) of section 1 of the *Building Act 1984*, to further the protection or enhancement of the environment, facilitate sustainable development and further the prevention or detection of crime.

**Clauses 1(2), 1(3) and 1(4)** substitute additional wording after these insertions into subsection IA of the Act, clarifying that the matters to which the regulations may apply, to include not only the design and construction of buildings, but also the demolition of buildings, and services, fittings and equipment provided in connection with buildings. This would widen the provisions of the Building Regulations to cover services within and around a building, and its ultimate decommissioning, and not just the structure itself.

**Clause 2 subsections (2) to (6)** is an enabling measure, making it possible to allow new regulations to be brought in by extending the measures already set out in Schedule 1(7) of the *Building Act*. Examples of some possible measures for which regulations may be made are set out in **Clause 2(4)**. These include: measures relating to the security of buildings; installation and inspection of security systems; the energy efficiency of appliances, taken in the broadest sense to include office machinery and equipment and not just domestic appliances; equipment for the monitoring and measuring of electricity supplies, to facilitate two-way metering for domestic renewable energy generation; and composting and recycling facilities.

Building Regulations can not be applied retrospectively to, or in connection with, buildings erected before the date on which the regulations came into force. Additionally, any building work must be carried out so that after completion, an existing building or controlled service or fitting continues to comply with the requirements that applied at the time, or if it did not comply before in any respect, must not be more unsatisfactory afterwards.<sup>83</sup> Renovation of existing buildings probably exceeds new build at the present time, yet the standard of compliance only requires buildings to be no worse off than before the work took place.

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<sup>82</sup> Personal communication with Andrew Stunell's office

<sup>83</sup> MJ Billington, MW Simons and JR Walters, *The Building Regulations explained and illustrated*, twelfth edition. Blackwell, November 2003.

**Clause 2(5)** brings in a new trigger point for compliance under new Regulations, so that they may take effect not just in the case of new buildings or when there is a material change of use, but also where the persons in occupation of the building, or part therein, change when a property is sold, let or re-let.

**Clause 2(6)** seeks to amend Schedule 1 paragraph (8) of the 1984 Act and give powers to work on existing buildings, services and fittings, by requiring a higher standard of compliance following renovation than the basic ‘no worse’ level that a good repair might achieve. The clause sets out details of circumstances when such regulations might apply, including with respect to demolition of buildings, the use of components made wholly or partially from recycled materials or the re-use of materials. The measures may be made for the purpose of securing, reducing or preventing emissions of smokes, gases, vapours or fumes. Again, the trigger for the provisions would be on the change of occupation of a building or part of a building.

Such a requirement may result in higher costs for developers, private sector or social landlords, and may deter many of them from undertaking repairs, despite the benefits that may result from more energy efficient, safer buildings for residents, and the community. Specific guidance may also be required in the case of listed buildings and those situated in conservation areas, built before Building Regulations were applied, and requiring special, sympathetic treatment.

Building Regulations do not apply to Crown properties (see above Section) but by convention, in most cases they are applied by analogy. The *Planning and Compulsory Purchase Bill*, Bill 10 2003-04, would apply planning law to Crown property. In the *Sustainable and Secure Buildings Bill*, **Clause 2(7)** would ensure that the Building Regulations would equally apply to Crown properties as outlined above, triggered by a change of occupation. This would include cases when one Government department occupies a building on the departure of another. Although no Regulatory Impact Assessment of the Bill is available at this time it is likely that such a measure would incur additional public expenditure, which may be subject to considerable scrutiny.

**Clause 3** would make continuing requirements on owners and occupiers of buildings to ensure that the building and equipment therein is regularly inspected, tested and maintained to the standards required with respect to use of fuel and power, and the control of emissions. In effect this is a ‘health check’ for buildings and equipment, such as heating and ventilation systems, requiring the keeping of records and the making of reports to a prescribed authority. Such measures are to some extent a prelude to changes to the Building Regulations scheduled for 2005 with regard to energy efficiency. The measure is intended to apply irrespective of when a building is constructed or if regulations applied at the time. The clause also includes provisions intended to apply to crown properties.

Certain categories of buildings and services are exempt from the Building Regulations. **Clause 4** would remove from the Building Act exemptions on educational establishments

(schools are no longer exempt – see Section VI.A.2 above) and the buildings of statutory undertakers, such as utility companies.

**Clause 5** would bring in requirements for the Secretary of State to make reports on the building stock every two years relating to two specific areas. The first would be to report on progress made in connection with the purposes of the Building Act (as amended by Clause 1 above) in the context of the building stock in England and Wales. A report would deal with any new regulations made in the reporting period as well as proposals for new regulations and their likely effects; overall changes in the efficiency of energy use in buildings; the level of emissions that are considered to contribute to climate change; the extent of facilities for generating energy and the extent to which construction materials are sourced from recycled or reused materials. The report must also include estimates of the number of buildings in England and Wales that are dwellings and the number of other buildings.

The Secretary of State would also be required to consider setting targets deemed appropriate for specific building types and specific technologies in connection with the purposes of the *Building Act*. For example, a target might be set that all new houses be required to install equipment to generate electricity from renewable sources, or that water conservation devices be installed by a given date.

In Australia, the Department of Sustainability and Environment in the State of Victoria has signed a voluntary ‘Sustainability Covenant’ backed by regulation, designed to stimulate business investment in sustainable development. In addition, a 5 Star energy rating for homes has been introduced. From 2005 all new homes are required to comply with targets to reduce energy consumption by 50% and water consumption by 25% by the installation of water conservation appliances, water tanks and/or solar hot water systems.<sup>84</sup>

The second area on which reports must be made is with regard to the *Warm Homes and Energy Conservation Act 2000* (c.31).<sup>85</sup> Both reports are required to be laid before Parliament.

The *Warm Homes and Energy Conservation Bill*, Bill 16 1999-2000, was a Private Member’s Bill sponsored by David Amess who was fifth in the Ballot that session. Background to the Bill is contained in a Library Research Paper RP 00/26<sup>86</sup> written for the Second Reading. This includes information about this and previous bills sponsored by Private Members on this issue.

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<sup>84</sup> Presentation by John Thwaites, Deputy Premier of Government of the State of Victoria at PRASEG Conference 2003 A sustainable energy future: action on aspirations 8 July 2003

<sup>85</sup> <http://www.hmso.gov.uk/acts/acts2000/20000031.htm>

<sup>86</sup> Available with other Bill papers and relevant material from the Library’s web page about energy efficiency  
[http://hcl1.hclibrary.parliament.uk/wdw/subject/subjectpage\\_briefings.asp?subject=Energy%20Conservation&subjectid=130](http://hcl1.hclibrary.parliament.uk/wdw/subject/subjectpage_briefings.asp?subject=Energy%20Conservation&subjectid=130)

The resulting legislation, the *Warm Homes and Energy Conservation Act 2000*, requires the Secretary of State to publish and implement a strategy for reducing fuel poverty.

Fuel poverty can be described and presented in many ways but the commonly accepted definition is a household that would need to spend more than 10% of its income on fuel to provide adequate heat and energy provision.

Part of the Act requires the Secretary of State to prepare and publish within twelve months from the day the Act was passed (23 November 2000), a strategy aimed at eradicating fuel poverty. The strategy must describe households to which it applies, specify energy efficiency measures, set interim objectives and dates for achieving them, and a target date not more than fifteen years hence by which fuel poverty should be eradicated.

Under the Act the Secretary of State is also required *from time to time* to assess the impact and publish reports on progress towards achieving the strategy, *but no firm timescale is given*.

The Government has complied with this by publishing the UK Fuel Poverty Strategy<sup>87</sup> in November 2001 and the first annual progress report in 2003.<sup>88</sup>

By contrast to the above Act the *Sustainable and Secure Buildings Bill* requires the Secretary of State to prepare a biennial report on the progress towards achieving the provisions of the *Warm Homes and Energy Conservation Act 2000* which includes the objectives in relation to target dates.

The local authority is the relevant enforcement agency for the Building Regulations and Building Control officers advise on whether proposed building projects comply with current building regulations. Increasingly, building work is being dealt with under private building control and supervision by an 'approved inspector', as defined by Section 49(1) of the Building Act. At present there is no requirement for anyone to take responsibility on site for compliance with the Regulations during the building phase, or to liaise in an official capacity with the building control official. In the case of construction sites, work is frequently contracted and sub-contracted, leading to a lack of clarity on lines of responsibility. **Clause 6** makes provision for a 'proper person' to be made responsible for ensuring compliance with Building Regulations in prescribed circumstances. That person, of a prescribed class or description, would give to a local authority or an approved inspector, a certificate stating that the requirements of the Building Regulations are satisfied. It is uncertain at this stage what additional administrative costs or burdens

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<sup>87</sup> DTI & Defra, *UK Fuel Poverty Strategy*, November 2001

<sup>88</sup> DTI & Defra, *UK Fuel Poverty Strategy: First Annual Progress Report*, November 2003

might arise from such a measure, given that compliance with the regulations is already required for building work.

Such an obligation is comparable to the role of the ‘responsible person’ in health and safety legislation, who must investigate incidents and make statutory reports to the relevant enforcement authorities. Generally the responsible person is the employer, but in certain circumstances may be the premises owner, or specially designated in areas such as mines and quarries.

**Clause 7** makes provision that any requirements made under unitary development plans for establishing targets for the proportion of a development’s energy requirements that should be met from renewable sources should be lawful under the *Town and Country Planning Act 1990*.

This measure arises following legal doubts over the proposal, now passed, by the London Borough of Merton to include targets for the generation of renewable energy by new homes under its unitary development plan. Development plans require the approval of the Secretary of State. Although planning guidance already takes sustainability into account, zoning for renewable energy is not currently included, although Planning Policy Guidance in this area is under consultation.<sup>89</sup> The Secretary of State has considerable scope for determining the content of development plans. It is possible in the light of national targets for electricity generation from renewables, that renewable energy criteria might form part of future planning guidance.

**Clause 8** brings in a requirement that any licensing scheme brought in for Houses in Multiple Occupation (HMOs) after 1 January 2004, shall contain provisions for a minimum standard of energy efficiency by given date for different categories of HMOs.

The mandatory licensing system for HMOs, currently under consideration as part of the *Housing Bill 2003-04*, will apply only to larger HMOs. However, the proposed Housing Health and Safety Rating Standards (HHSRS), which will replace the current Housing Fitness Standards under this legislation, will include provisions relating to energy efficiency. The Standard will apply to all HMOs.<sup>90</sup>

**Clause 9** sets out the short title and commencement details; the Bill extends to England and Wales only.

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<sup>89</sup> For further information see Library Note SNSC-2739 *Renewable energy-Planning policy* <http://hcl1.hclibrary.parliament.uk/notes/ses/snsc-02739.pdf>

<sup>90</sup> For more information please refer to Library Research Paper 04/02 *Housing Bill [Bill 11 2003-04]* <http://hcl1.hclibrary.parliament.uk/rp2004/rp04-002.pdf>

## **XII Comments on sustainability**

At the World Summit on sustainable development in Johannesburg in August 2002, the WWF launched its campaign 'One Million Sustainable Homes'. The following comments by interest groups have been made about this and sustainability in general.

### **A. By Political Parties**

#### **1. Labour Party**

The views of the Labour Party are essentially those of the Government on this issue and endorse the initiatives on sustainable construction as outlined in Section V above. In the following speech made by **Margaret Beckett, the Secretary of State for Environment, Food and Rural Affairs**, addressed to the Better Buildings Summit on 23 October 2003, she highlighted the Labour Government's concern about global warming and the need to reduce carbon dioxide emission, and set out its policy for sustainable building development:

5.... we need to recognise that the buildings in which we live and work do have very significant environmental impacts:

Buildings contribute almost half - about 46% - of the UK's carbon dioxide emissions with our homes alone contributing about 27%.

Demand for water has risen and continues to rise. And again, more than half - 56% - of water supplied is used by households.

Buildings also have significant impacts in terms of the use of natural resources such as timber and materials in their construction; and construction and demolition waste is a significant waste stream.

And as demand for housing continues to grow, there's increasing pressure to find more land for development.

6. So it's vital that we turn the principles of sustainable development into practice in our buildings and try to ensure that we minimise harmful impacts for those who come after us.

7. So, what makes a 'Sustainable Building'? In broad terms... a building that leaves as small an environmental footprint as possible, is economic to run over its whole life cycle, and fits well with the needs of the local community.

8. It must be energy, and carbon, efficient, which means it must be designed to minimise energy consumption, with effective insulation, the most efficient heating or cooling systems and appliances. It'll probably also make use of integrated renewables or combined heat and power, be part of district or community energy scheme or may incorporate new technologies such as micro-CHP and fuel cells.

9. A 'Sustainable Building' will not only be highly energy and carbon efficient. In parts of the UK water is already a scarce resource where unsustainable extraction regimes often result in environmental damage. So buildings must also be designed and constructed to enable its occupants to use less water, through, for example, the installation of more efficient fittings and appliances.

10. A sustainable building must also be built with good access to public transport in mind.

11. And important will be a minimum of waste in its construction and the maximum re-use of on-site materials such as waste soil together with use of renewable, recycled and sustainably-managed construction materials, including timber.
12. And of course buildings should also be designed to make recycling and composting easy for the occupants.
13. And we must recognise that however successful we are at combating climate change in the longer term, we will need to adapt more and more to its impacts. Our buildings will have to be robust to hotter drier summers, warmer wetter winters, and rising sea levels. Many impacts of climate change can be reduced by building adequate protection into plans at an early stage. We shouldn't wait until we are forced to act by sudden problems or mounting maintenance costs.
14. We know all that's achievable with new build...
15. The challenge for today is to ensure that the highest environmental standards are applied more widely. So I'm really delighted that John [Prescott] has just announced that, alongside the revision of the energy efficiency provisions of the Building Regulations, he'll also be setting higher mandatory national standards for water efficiency and to the same timetable. I think that's particularly timely given the plans for significant new-build in the growth areas in the South East where water resources are already a major environmental constraint.
16. As John [Prescott] also mentioned, we expect too to see new developments meeting the highest standards and we want to encourage best practice across the whole range of sustainability issues. So we've decided to establish a high-level Task Group consisting of a small number of key players from industry, the NGO community, regulators, expert bodies and local authorities to advise Government on how best to drive up standards of environmental performance in buildings, particularly for new developments and communities.
17. The group will identify specific improvements in performance in energy and water use, waste reduction and use of materials that industry should be able to deliver, together with further actions that Government could take to facilitate faster progress. I'll be asking the task group to report back in February next year to coincide with the anniversary of both the Sustainable Communities Plan and the Energy White Paper.
18. But of course new-build forms only a small proportion of our building stock. Significantly raising the environmental standards of our existing stock poses a much greater challenge. A real sticking point has been adequate insulation of some of our older housing stock and that's why I'm also delighted that the Carbon Trust is today launching its "Solid Wall Insulation Challenge". There are seven million solid-walled dwellings in the UK and insulating those in a cost-effective way would bring real benefits.
19. It is also important too to recognise that along with environmental benefits come social benefits - reduced energy use and water consumption reduce bills helping those in fuel poverty and on low incomes.
20. Government clearly has an important role as a sponsor of house building; as a major client for the property sector; and of course, in setting the overall policy and legislative framework. We also need to effectively communicate the message about climate change and how our behaviour can tackle it. And the right fiscal signals need to be in place. The Treasury is jointly consulting with my Department on fiscal incentives to promote household energy efficiency and I would urge you all to make your views known in that consultation.

21. Skills have a crucial role too to play in achieving our goals, and we must deploy all the resources available to Government and its partners to ensure we have the skilled workforce we need.

22. So again, I am delighted to announce today that we are launching a major new training programme for heating installers, in partnership with the Energy Saving Trust, the Learning and Skills Council, the Heating Industry, the Energy Efficiency Partnership for Homes, and CORGI. The programme - which will train around 70,000 installers by the end of 2005 - should ensure that when higher efficiency boiler standards are introduced in April 2005 there will be enough people willing and able to install them. Many of you will know that has been a problem in the past.

23. But as you know, Government alone cannot deliver the step change we need. We are committed to setting a supportive policy framework, but we need property clients to demand more sustainable buildings. We need financial institutions to back developers. We need sustainability at the heart of our skills and professional training. We need architects and designers to incorporate sustainability in their designs. We need manufacturers to deliver efficient building services and fabric components. And we need house builders and the wider construction industry to develop and market sustainable buildings and consumers to demand those higher standards.

24. Government is committed to higher environmental standards, and faster, and wants commitment from the industry to work in partnership to deliver them. I see the Sustainable Buildings Task Group as a vital means of helping to ensure that we all work together towards this common goal, and that today's best practice rapidly becomes tomorrow's norm.<sup>91</sup>

## 2. Liberal Democrats

The Bill is introduced by the Liberal Democrat energy spokesman, Andrew Stunell, and reflects the party's policy on the issues covered (see section II Liberal Democrat energy policy).

Further information is available in the Liberal Democrat policy papers *Conserving the Future*,<sup>92</sup> which deals with energy efficiency in the home, and *A Strategy for Sustainability*,<sup>93</sup> which covers water use.

Both the most recent planning policy paper, *Planning for the 21st Century*, and crime policy paper, *Justice and the Community*, assert the importance of the design of houses

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<sup>91</sup> Margaret Beckett's speech to the Better Buildings Summit 23 October 2003  
<http://www.defra.gov.uk/corporate/ministers/speeches/mb031021.htm>

<sup>92</sup> Liberal Democrats, *Conserving the future: proposals on energy policy*, Policy Paper 58, September 2003, which deals with energy efficiency in the home in section 4.2  
[http://www.libdems.org.uk/documents/policies/Policy\\_Papers/58ConservingtheFuture.pdf](http://www.libdems.org.uk/documents/policies/Policy_Papers/58ConservingtheFuture.pdf),

<sup>93</sup> Liberal Democrats, *A Strategy for Sustainability*, Policy Paper, 2000 which covers water use on p14 & 38-43.  
[http://www.libdems.org.uk/index.cfm/page.folders/section.policy/folder.policy\\_papers](http://www.libdems.org.uk/index.cfm/page.folders/section.policy/folder.policy_papers)



and housing developments in reducing crime, but do not go into detail. Both documents are available on the Liberal Democrat website.<sup>94</sup>

### **3. Conservative Party**

The Conservative Party policy was not available at the time of publication of this paper.

## **B. By Interest groups**

The majority of these are views posted on the WWF ‘One Million Sustainable Homes’ campaign website.

Sir Martin Laing, Chair of the Sustainable Construction Task Group:

“We believe the One Million Sustainable Homes initiative could be a powerful catalyst in putting home building and refurbishment in the UK on a more sustainable footing. It complements the work of the Sustainable Construction Task Group very well. We applaud the project's action-orientated focus, and hope to be able to lend practical support to this important new project as it develops.”

Robert Ashmead, Chief Executive, House Builders Federation

“The House Builders Federation is delighted to support the One Million Sustainable Homes initiative and looks forward to exploring ways in which it can be involved in promoting its aims with members.”

Jonathon Porritt, Chair of the UK Sustainable Development Commission:

“Why on earth didn't Government sign up to One Million Sustainable Homes months ago?”

Jon Rouse, Chief Executive, Commission for Architecture & the Built Environment:

“CABE fully supports the WWF's campaign to ensure that as many new and existing homes as possible are built or renovated as part of sustainable communities. This will mean developing brownfield sites before greenfield wherever possible, using building methods and materials that minimise the wasteful use of finite natural resources, and providing residential environments where people can live their lives in a way that reduces adverse impacts on the natural environment in respect of the use of energy, water and other resources, and in sharing those environments with other species.”

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<sup>94</sup> [http://www.libdems.org.uk/index.cfm/page.folders/section.policy/folder.policy\\_papers](http://www.libdems.org.uk/index.cfm/page.folders/section.policy/folder.policy_papers)

Dr Peter Bansby, Director General, Construction Industry Research and Information Association:

“We are pleased to support the WWF campaign. CIRIA looks forward to contributing to the development, dissemination and adoption of best practice to help convert these aspirations into reality.”

Alan Knight, Chair of the Advisory Committee on Consumer Products and the Environment, and Head of Social Responsibility, Kingfisher Plc:

“There is an urgent need to bring the concept of sustainability into the homes of all of the people in the UK in a way that is both relevant and adds value to their lives. The One Million Sustainable Homes initiative provides a great vehicle for government and industry to do just this, and that is why ACCPE supports this initiative. Sustainable Homes will be good for government, good for business and good for customers.”

Women’s Institute:

“This meeting calls upon HM Government in its review of the planning system to ensure that planning permission for all new build properties should be linked to the incorporation of water conserving systems and provide optimum design features to enable solar gain and minimise carbon dioxide emission from the use of conventional fuels.”<sup>95</sup>

There have been no negative comments on the aims of the Bill from the construction industry, but mixed views from members of the public responding to the Bill can be seen on the BBC News website.<sup>96</sup>

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<sup>95</sup> Women’s Institute Resolution shortlist 2004

<http://www.womens-institute.co.uk/campaigns/resolutions-housing.shtml>

<sup>96</sup> [http://news.bbc.co.uk/1/hi/programmes/bbc\\_parliament/3399743.stm](http://news.bbc.co.uk/1/hi/programmes/bbc_parliament/3399743.stm)

## Appendix 1 Solar heating

Solar heating systems can be divided into **active** and **passive** types. Active systems convert solar radiation into heat that can be used. In a passive system the building is designed to maximise the solar energy that falls on it. Passive systems remain expensive and will have limited application in the short term until more housing stock is replaced, but are worth considering at the design stage of new buildings.

Active domestic systems comprise water heating and space heating. However they are likely to be of limited application in the UK because we do not enjoy the same sunny conditions as some other countries and viable systems are determined by climatic conditions. In the UK there is a high proportion of diffuse sunlight and prolonged periods with little radiation. Systems not requiring direct sunlight that produce low-temperature heating are most suitable, such as heated swimming pools.

Solar space heating can be used in individual houses but is uncommon simply because large areas of collectors (20-40 m<sup>2</sup>) are required to provide sufficient heat in winter. It is possible to store heat collected during the summer and use it in winter (inter-seasonal systems) but this is only feasible in large systems such as solar district heating systems and these often require a supplementary heating source. Very large arrays of collectors are necessary for such schemes, and the cost of these and the other infrastructure make their installation expensive.

In terms of incentives for the installation of water heating solar panels, the market is considered to be mature in this area, and the range of incentives is generally limited. Until 2003 there have been no centrally funded grants, but VAT is charged at the reduced rate of 5% for the professional installation of systems.<sup>97</sup> Some electricity supply companies offer grants to customers to cover the costs of installation of water heating panels.

In May 2002 a PQ indicated that support for solar water heating may be forthcoming under the Community and Household Scheme, now known as the Clear Skies Initiative.

Consideration is being given to whether support for solar water heating systems, in addition to other small- scale renewables, could be included in the £10 million Community and Household Scheme (CHS), which is currently being designed.<sup>98</sup>

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<sup>97</sup> HM Customs and Excise press notice CE6 "Good news for all householders - VAT slashed on energy", 21 March 2000

<sup>98</sup> HC Deb 22 May 2002 c400W

## A. Inter-seasonal technology

Inter-seasonal technology attempts to store solar energy from the summer months for use in winter heating. In low latitude countries and tropical areas, where there is less call for heating, sunlight is constant for most of the year and it is easier to design and build energy efficient houses. In the higher latitudes the weak winter sun and relatively short daylight hours mean that there is rarely sufficient sunlight to meet buildings' energy demands. To develop a self-sufficient solar house requires use of both 'passive' and 'inter-seasonal' technologies. Passive designs aim to reduce the energy demand of the building through advanced insulation, while 'inter-seasonal' technology attempts to store solar energy from summer months for use in winter heating.

Government policy on support in this area was spelt out in May 2002:

Little work has been done in the UK on interseasonal storage. While heat may be 'free' and the technology itself quite simple, the cost of the necessary equipment and infrastructure is the barrier to wider exploitation. We will, however, be keeping a watching brief on seasonal heat storage developments<sup>99</sup>

## B. Solar electricity (photovoltaics)

Active solar systems also include the generation of electricity from solar energy (photovoltaics – PV) and may be used in buildings in the form of roofing or cladding. Again, they are likely to be of limited application in the UK because of climatic conditions.

As part of the Government's ongoing review of renewable energy, ETSU (formerly the Energy Technology Support Unit) compiled in 1999 supporting analysis for the DTI. This contains information about active solar schemes including domestic schemes, with economic analysis.<sup>100</sup>

Government support for solar photovoltaics comes in the form of grants, initially to support **Large Scale** and **Domestic Solar PV Systems Field Trials** and latterly, grants to support a **Major Photovoltaics Demonstration Programme (MPDP)**. A target has been set for 3,000 domestic roofs and 140 non-domestic (public and commercial) roofs to receive solar panels over the next three years, for which £20 million has been allocated.

Library Note SNSC:01827 *Solar power grants* explains in more detail the background to the schemes and how to apply for grants.

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<sup>99</sup> HC Deb 26 May 2002 c796W

<sup>100</sup> *New and Renewable Energy: Prospects in the UK for the 21st Century: Supporting Analysis*, ETSU for DTI, March 1999, pp 27-36

## Appendix 2 Combined Heat and Power

Combined Heat and Power (CHP) is a form of electricity generation in which both the electricity and associated heat generated as a by-product are used, making it a very efficient form of generation. The effective efficiency of CHP can be 80% or higher. This efficient operation minimises carbon dioxide emissions per unit of energy production. As such CHP is an important element in the Government's strategy for reducing greenhouse gas emissions, and can play a significant part in achieving the UK's Kyoto targets as well as the domestic target of reducing carbon dioxide (CO<sub>2</sub>) emissions by 20 per cent on 1990 levels by 2010.

Traditionally CHP has been used on large scale industrial sites, but smaller plants, including micro-CHP<sup>101</sup> suitable as a heating and power generation system for individual dwellings, are now available. In a recent debate Jane Griffiths MP set out the benefits of micro-CHP:

Micro-CHP is a home heating and power system—one boiler that can generate heat and light. It can contribute to four policy goals of the energy White Paper. First, it reduces CO<sub>2</sub> by at least 1.5 tonnes per household per annum. Secondly, when aimed at the mass market, it provides a highly diversified generating source, reducing winter peak demand on the grid and enhancing security of supply, which is obviously welcome when there is concern about the future electricity supply. Thirdly, it provides adequate and affordable home heating, even in homes that are hard to heat, and reduces energy bills by some £150 a year, which makes it the heating system with the lowest lifetime cost. Fourthly, it helps to improve our competitiveness, as the UK is at the forefront of the technology.<sup>102</sup>

To give an impression of the part micro-CHP can play in CO<sub>2</sub> reduction Jane Griffiths gave some figures:

27 per cent. of carbon dioxide emissions are from domestic sources. To achieve the energy White Paper targets of a 20 per cent. reduction in CO<sub>2</sub> emissions by 2020 and a 60 per cent. reduction by 2050, the domestic sector must play its part.

(...)

Half all domestic CO<sub>2</sub> comes from boilers, despite the growth in the more efficient condensing boilers.

(...)

If only a quarter of heating systems installed between now and 2020 were micro-CHP, they would provide half the energy White Paper's carbon-saving targets for domestic energy efficiency. At the same time, that would provide the equivalent

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<sup>101</sup> A generic term for appliances that provide heating and generate up to 5 kilowatt of electricity. They use a range of fuels and technologies.

<sup>102</sup> HC Deb 6 January 2004 c70WH

of 40 per cent. of today's nuclear capacity, and would provide significant, secure and diverse generating capacity.<sup>103</sup>

Jane Griffiths explained the fiscal anomalies that apply to micro-CHP and why the VAT rate and capital allowances should be favourable to enhance the uptake of this technology:

Micro-CHP boilers offer average savings of £150 a year and are cheaper than other boilers over the full lifetime, but they are more expensive to buy, as most new technology tends to be. They also suffer from anomalies in the tax system.<sup>104</sup> There is 5 per cent. VAT on the use of energy, but 17.5 per cent. VAT on the purchase of micro-CHP. Market research carried out for MicroGen, the micro-CHP manufacturer in my constituency, shows that customers are excited by the technology and are attracted to the energy savings as well as the idea of independence and control over power and fuel supply, but they do not value the environmental benefit highly.<sup>105</sup>

Jane Griffiths showed that:

the development of a market for micro-CHP has benefits for families, because it reduces fuel bills; for climate change, because it reduces CO<sub>2</sub> emissions; for security of energy supply, because extra generating capacity will be developed; and for the economy, because British manufacturing capacity in a world-leading technology will be expanded.

... the longer we delay in introducing measures to correct problems in the market that act against the introduction of micro-CHP, the more opportunities we will miss to obtain those benefits.<sup>106</sup>

The minister replied:

Micro-CHP, as my hon. Friend said, offers simultaneous generation of heat and power in a unit that is about the same size as a domestic heating boiler. Although these are early days for the technology, we hope that it will offer significant reductions in both household energy bills and carbon emissions. I confirm that we shall consider a role for capital allowances<sup>107</sup> to play a part in encouraging installation of micro-CHP in the context of both the energy saving strategy and of the corporation tax review. I also assure my hon. Friend that we shall fully consider the case for micro-CHP and reduced VAT rates<sup>108</sup> as part of the process of considering responses to the energy consultation document.

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<sup>103</sup> HC Deb 6 January 2004 c70WH

<sup>104</sup> See also section 'Economic instruments to promote energy efficiency'

<sup>105</sup> HC Deb 6 January 2004 cc70-71WH

<sup>106</sup> HC Deb 6 January 2004 c73WH

<sup>107</sup> See also section 'Economic instruments to promote energy efficiency'

<sup>108</sup> See also section 'Economic instruments to promote energy efficiency'

My hon. Friend has used this debate effectively to advance the proposition that micro-CHP is a technology that could make a valuable contribution to greater domestic energy efficiency. We recognise that, and that the gains may be even greater in future as the industry develops the technology further. We have made provision for reduced rates of VAT on grant-funded installations of micro-CHP. We shall consider both the case and the scope for doing so for domestic installation and we are also considering the case and the scope for going further.<sup>109</sup>

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<sup>109</sup> HC Deb 6 January 2004 c76WH

## Appendix 3 Micro wind generation and two way metering

The Government is promoting wind power as the resource most likely to make a significant contribution to its renewable energy targets until 2010. Clearly, planning considerations make a large scale wind turbine impractical in most domestic settings, the financial outlay would be prohibitive, and generally there is a high degree of public scepticism about and hostility towards them.

A report by the Economic Research Council<sup>110</sup> noted recently that were a household to install a National Grid connection turbine at a cost of £12,000 it would take 29 years to pay off the investment.

However, a Scottish entrepreneur, David Gordon from Glasgow start-up company Windsave<sup>111</sup> has invented and patented a rooftop turbine costing £750 that plugs directly into the domestic electricity supply. The design incorporates a remote meter reading device, which calculates how much electricity has been generated.

From UK wind conditions it can generate around a sixth of the average household's gas and electricity bill, which energy regulator Ofgem estimates at around £500 - a saving of about £83 a year.

Added to this is the use of ROCs, the government's renewable energy incentive scheme, which rewards those who generate energy from alternative sources. Gordon estimates the reading should lead to an annual cheque for around £65 from the government, what he calls a "green dividend".

Gordon then takes back 20 per cent of that as his dividend, leaving the customer with £52. But the total annual saving is still £135. Years to pay off investment: five and a half.<sup>112</sup>

The design has the support of Brian Wilson, the former energy minister and renewable campaigner, who has publicly backed the venture.

### A. Two way metering

Small, domestic or community renewable electricity generators are unlikely to generate sufficient electricity to meet all their needs. Depending on the technology used, they will usually need to augment their supply from the grid, which must be metered; likewise, they must have a mechanism to meter any surplus electricity exported to the grid. Facilitating such metering at low cost is one of the factors likely to affect to the take-up and expansion of renewable energy in the domestic setting.

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<sup>110</sup> Dan Lewis, Recharging The Nation, *Latest Research Paper* no. 19 ERC November 2003

<sup>111</sup> <http://www.windsave.com/>

<sup>112</sup> "Inventor out to prove affordable green energy is more than hot air", *Scotsman* 27 November 2003



There are two methods of electricity metering considered acceptable; net metering requires the use of only one electricity meter, usually the older moving disc type. The meter will run backwards if the renewable source is producing more power than the building is using, effectively selling power to the electricity retailer for the same price at which the customer buys it. When the wind dies down or is too strong, or in times of overcast weather, the meter will run normally as the building draws power from the electricity grid.

Two way metering requires the installation of a second meter or an electronic meter, which can read power going in both directions. Customers negotiate with their electricity retailer the price that they will pay for the renewable electricity generated.

The concept of two-way metering is not new and is employed successfully where technologies are in greater use than in the UK. This point was demonstrated during the Sixth Standing Committee on Delegated Legislation debate on Draft Social and Environmental Guidance to the Gas and Electricity Markets authority:<sup>113</sup>

Mr. Thomas: On a slightly more positive note, is the hon. Gentleman aware that the 100,000 roofs programme in Germany, under which photovoltaic units are installed on roofs, has been so successful precisely because it is allied to a two-way metering system? When there is decent sunshine, consumers can pass the electricity that they generate but do not use on to the grid. When necessary, they can take electricity from the grid. The two-way system works well in Germany and could surely work well here.

Mr. Stunell: That is absolutely true. The cost of removing an existing meter and installing a two-way meter is a significant inhibition for small-scale photovoltaic schemes in this country and it is certainly a major disincentive for micro CHP.

Automated Meter Reading is a relatively new technology that allows energy distributors to take meter readings from remote residential or commercial/industrial locations. Some newer systems allow a single communication wireless channel to be used that can monitor loads and permit two-way metering, using the internet. Growth in this sector has developed partly due to competition in the energy industry as a whole, which has led to an increasing focus on the costs of metering services and a trend to contract out to third parties, often electronics companies.

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<sup>113</sup> Sixth Standing Committee on Delegated Legislation on Draft Social and Environmental Guidance to the Gas and Electricity Markets authority 6 November 2002  
<http://www.parliament.the-stationery-office.co.uk/pa/cm200102/cmstand/deleg6/st021106/21106s01.htm#end>

The development of micro-CHP and other renewables is seen as a market driver in this area. The report of the Smart Metering Working Group notes:<sup>114</sup>

As the potential for marketing micro-generation (such as photovoltaics and micro-CHP) in the domestic and small commercial market grows, this will also require changes to the relationship between suppliers and customers, especially in the way that billing takes account of any electricity exported by the customer. Current domestic metering arrangements are not adequate to cope with this and unless suppliers base their bills on demand profiling, a more sophisticated form of two-way metering will be needed.

According to the DTI website:<sup>115</sup>

The report looks at how smart metering can be used to facilitate the use of micro CHP and photovoltaics in the home and how it can help consumers to manage their energy consumption and save money. The report also considers the barriers to the development of smart metering and highlights the lack of public awareness. It also looks at the market in metering technology and what developments are taking place.

The Executive Summary notes:

The establishment of the Smart Metering Working Group (SMWG) was announced by Patricia Hewitt (then Minister for E-Commerce) on 26 April 2001. Its remit was “to consider how “smart” metering technologies can be applied in the energy arena and report, with recommendations, in September (2001).” This report recommends that, subject to securing necessary funding from the public and/or private sectors, pilot studies should be set up to establish how far smart metering can best contribute to development of the domestic energy market and to the Government’s social, environmental and security of supply objectives for energy policy and towards its e-agenda.

Limited analysis from the report found that:

reductions in domestic consumption of 5-10 per cent are possible and that smart metering could have the potential to deliver, on an annual basis:

- reductions in domestic fuel bills by an average of £24 and, if applied in all households,
- reductions in overall UK gas and electricity consumption of around 2%; and
- reductions in carbon emissions of around 2½ million tonnes.

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<sup>114</sup> Smart Meter Working Group Report

[http://www.dti.gov.uk/energy/environment/energy\\_efficiency/smartmeter.pdf](http://www.dti.gov.uk/energy/environment/energy_efficiency/smartmeter.pdf)

<sup>115</sup> [http://www.dti.gov.uk/energy/environment/energy\\_efficiency/smart\\_metering.shtml](http://www.dti.gov.uk/energy/environment/energy_efficiency/smart_metering.shtml)

## Appendix 4 Water conservation measures

The Environment Agency has summarised the position in England and Wales regarding water supply as follows:

In an *average* year there is less water per person in England and Wales than in Spain or Portugal. In parts of the south and east of England there is less per person than in Ethiopia or the Sudan. This scarce resource needs very careful management if we are to ensure that there is enough for us to use in our homes, in industry and for agriculture. But the natural environment also needs water. We have to find a sustainable balance to these conflicting needs.<sup>116</sup>

Both the Government and the Water Industry agree with the Agency in the need to conserve and manage what is a limited resource, particularly in drier more densely populated areas such as London and the South East. Pressure on water resources is likely to increase, and there is considerable potential for increased water efficiency in the building stock. The main gains for more sustainable construction would come from incorporation of more water-efficient building services. This can be simple such as specifying low flow showers, sprinkler taps and dual flush WCs, or include more comprehensive solutions such as grey water recovery, rainwater recovery, and drainage control. Water audits of existing buildings would also be able to show where savings in water use can be made when refurbishing existing buildings.

Though such measures are not currently included in building regulations the Government agreed that there is scope for modifications to the regulations in its response to the enquiry ODPM Select Committee carried out into *Sustainable Housing in the South East*.<sup>117</sup> The Government response to the Committee highlighted provisions within existing building regulations to increase water efficiency. It also stated that:

Without duplicating existing provisions, it may be beneficial to explore the extent to which the Building Regulations could facilitate additional water conservation measures.<sup>118</sup>

And

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<sup>116</sup> Environment Agency, *Water resources for the future: A strategy for England and Wales*, March 2001  
[http://www.environment-agency.gov.uk/commondata/105385/national\\_report\\_english.pdf](http://www.environment-agency.gov.uk/commondata/105385/national_report_english.pdf)

<sup>117</sup> ODPM, *Sustainable Communities in the South East*, February 2003  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_communities/documents/page/odpm\\_comm\\_022208.hcs](http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/page/odpm_comm_022208.hcs)

<sup>118</sup> ODPM, *The Government's Response to the ODPM Housing, Planning, Local Government and the Regions Committee Report- 'Planning for Sustainable Communities: Sustainable Communities in the South East'* Jul 2003  
[http://www.odpm.gov.uk/stellent/groups/odpm\\_communities/documents/pdf/odpm\\_comm\\_pdf\\_022969.pdf](http://www.odpm.gov.uk/stellent/groups/odpm_communities/documents/pdf/odpm_comm_pdf_022969.pdf)

The Building Regulations and the Water Supply (Water Fittings) Regulations apply nationally, irrespective of the local or regional water resource position. Instead of more stringent national standards, the scope for a more targeted approach through the planning system, in line with local and regional water resources, should be fully explored. This would provide the means to deliver the greatest water savings in the areas where they were needed most, such as the South East.<sup>119</sup>

Water metering is another way in which households can be made more water efficient. Metering is the most obvious alternative to water rates as it fits in with the need to tailor charges more closely to water use to encourage water conservation, especially as the water companies have a statutory duty to promote the efficient use of water by their customers. Section 142 of the *Water Industry Act 1991* allows water companies to choose whatever methods they feel appropriate for charging, as long as it fair to customers. Under the terms of their licences companies must ensure that "in fixing or agreeing charges...no undue preference is shown to, and that there is no undue discrimination against, any class of customers or potential customers". In addition the Government has stated that for new homes, and those substantially altered since 1990, there are no rateable values and metering should be the normal charging method.<sup>120</sup> Finally to encourage home owners to take up water metering voluntarily the *Water Industry Act 1999* allows for domestic customers who currently pay on an unmeasured (unmetered) basis to have a meter fitted, free of charge and gives them the option of reverting to an unmeasured charge within 12 months.

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<sup>119</sup> *ibid*

<sup>120</sup> DETR, *Water charging in England and Wales: Decisions following consultation*, November 1998, page 7 para 24

## Appendix 5 Home security measures

The following are a selection of national and local schemes.

### A. The Warm Front Team

A central part of Government strategy on domestic energy efficiency is the development of the Warm Front Team (formerly called the Home Energy Efficiency Scheme (HEES)) which is designed to help the 'fuel poor'. Fuel poverty, which is usually defined as a household in which excess of 10% of income is spent to maintain a satisfactory heating regime, occurs in about 4 million households in England.

The Scheme, which comes under the auspices of DEFRA, provides Government grants for eligible individuals to improve home insulation, heating, and in some cases, security.

Since energy efficiency is a devolved issue the position in England, Wales, Scotland and N. Ireland differ, and the Scheme is administered by two groups which cover different regions of the UK. Further information about eligibility for interested individuals is contained in Library note SN/SC/2191, *The Warm Front Team*.

Essentially there are two types of grant: Warm Front and Warm Front Plus. Eligibility depends upon a number of factors. Security measures are considered only as part of Warm Front Plus.

#### *Warm Front Plus*

Warm Front Plus is aimed at people aged 60 and over. It can provide grants up to £2,500 for a package of energy efficiency, insulation and heating measures specifically tailored to the needs of a property. It may also offer basic security measures in designated 'high crime areas', such as door and window locks, a door viewer and chain, a security light to rear yard or garden, and smoke alarms under the Locks for Pensioners scheme.

To qualify for Warm Front Plus an individual must be aged 60 or over, own their home or privately rent it and receive one or more qualifying benefits including Income Support, Council Tax Benefit, Income-based Jobseeker's Allowance, Housing Benefit or Pension Benefit.

From the start of the scheme in June 2000 until 31 March 2002, a total of 32,000 households were fitted with security measures, with 9,300 in the twelve months from 1 April 2001 to 31 March 2002.<sup>121</sup> Whilst the Warm Front Scheme continues, applications for the Locks for Pensioners scheme in England have not been accepted since 2002.

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<sup>121</sup> Warm Front Annual Report 2001/2002

There is a backlog of surveying and installation work but by the end of 2003 it was anticipated that around 115,000 eligible homes would have been surveyed, of which around a half would have received security upgrades while the remainder did not need or want them.

## **B. The Crime Reduction Programme**

### *The Reducing Burglary Initiative*

The Home Office, mindful that domestic burglary is still a major crime problem, launched the Reducing Burglary Initiative which ran from 1999 until 2002. The following information from its website provides an overview:

Whilst the number of recorded domestic burglaries (including attempts) has fallen by more than 40% since 1993, they still represent a major crime problem:

- 437,644 such offences were recorded in England and Wales in the 12 months to March 2003;
- domestic burglary offences make up around 8% of all recorded property crime;
- in comparison with other countries, England and Wales has one of the highest burglary rates.

The results of the latest British Crime Survey for 2002/3 estimates that, when you take into account instances that are not reported to or recorded by the police, the domestic burglary problem is significantly higher - totalling some 974 thousand burglaries or attempted burglaries (a 23% reduction compared to 1999 and 39% less than in 1997).

[For details of the recorded crime and British Crime Survey statistics for 2002/3 click here.](#)

The Reducing Burglary Initiative, which ran from 1999 until 2002, aimed to reduce burglary nationally by targeting areas with the worst domestic burglary problems and monitoring the cost effectiveness of the different approaches to find out what works best, in which circumstances. It invested around £25 million (excluding evaluation and overhead costs) in projects in areas that had a significant burglary problem (areas or communities that had, at the time, a burglary rate of at least one-and-a-half times the national average at that time - i.e. 36 or more burglaries, including attempts, per year per thousand households). In addition, around £2m was committed to projects to reduce the problems of distraction burglary - that committed by bogus callers for example.

The Initiative reached an important target of funding projects in areas or communities containing over two million households in England and Wales. In addition to reducing burglary in these areas, the lessons learnt from the Initiative are already proving to be of wider benefit to all local crime and disorder reduction partnerships seeking to improve their own anti-burglary strategies, and to the Home Office in planning its crime reduction work.

The Initiative was divided into 3 rounds. In rounds 1 and 2, Crime and Disorder Partnerships were invited to submit applications for funding to run projects aimed at reducing local burglary problems in areas or communities that suffered twice the national average burglary rate over the previous 3 years.

### **Round 1**

Under Round 1, [63 Strategic Development Projects](#) were funded covering about 220,000 households which suffered around 18,000 burglaries in 1998. A wide range of approaches was employed. Round 1 projects were initially granted around £60k each, irrespective of the scale of the problem. In later rounds, applicants could bid for £100 for each burglary that occurred in the area or community over the previous 3 years. Those round 1 projects that would have been eligible for more than their original grant under this criteria, and that had made good progress, were allowed to bid for the extra money. Early findings from an evaluation of 55 of the round 1 projects indicate that, on average, they reduced burglary by 20% (7% net if you take into account changes likely to have happened without the projects).

### **Round 2**

Round 2 was launched in October 1999 with a series of seminars at which those police forces, and their crime and disorder partners, interested in taking part were given advice on how they could analyse their burglary problems and prepare their applications. Participants were also introduced to a consortium from Crime Concern and NACRO, which has been funded by the Home Office to help partnerships develop, implement and run Round 2 projects.

In total, 173 applications were received, of which 161 were approved. Together these covered nearly 600,000 households that suffered nearly 44,000 burglaries per year.

[Click here for summaries of the 161 round 2 projects.](#)

### **Round 3**

Round 3 was launched in April 2000. This round was broadly similar to round 2 but with three significant differences:

- it was a rolling round - i.e. applications could be submitted, and were assessed, as and when they were ready with the one proviso that all bids had to be submitted by the end of January 2001
- the burglary rate criteria was relaxed from twice the national average to one-and-a-half times the national average, allowing areas that did not qualify for the earlier rounds to submit bids
- projects were not limited to 12 months' duration

The Crime Concern / NACRO consortium remained available to help successful applicants implement and run their projects. 23 projects covering around 1.3 million households were approved.

### **Evaluation**

An important part of the Initiative is to find out what works best in which circumstances. To achieve this an evaluation programme has been put in place. Eventually this will provide cost-effectiveness data for various types of intervention, but in the meantime some important lessons are already emerging on how to develop and run crime reduction projects and on how to implement different types of intervention. These will help others running similar projects avoid some of the common pitfalls and make best use of the available resources. [Click here for more information on the evaluation programme and the material emerging from it.](#)

Crime and disorder partnerships seeking further information on this Initiative should contact the appropriate [Government Office for the Regions](#).<sup>122</sup>

### ***The Safer Communities Initiative***

The Safer Communities Initiative is run by the Home Office as a framework to provide the Crime and Disorder Reduction Partnerships with funding to help them meet national crime reduction targets and other local priorities. In 2002-03, £20 million was provided. The following information is from the website:

All 376 Crime and Disorder Reduction Partnerships have been allocated a share of the £20m funding which has been made available for this year under the Safer Communities Initiative (SCI). The allocations for each partnership is given [below](#).

The Safer Communities Initiative is conceived as a framework for providing CDRPs with funding to supplement mainstream activity to deliver a complementary activity plan of situational and social crime reduction interventions. This programme is seen by the Home Office as taking forward Partnerships' audits and strategies for 2002 - 2003.

The SCI moves away from the competitive bidding rounds of the Crime Reduction Programme. The intention being to provide a flexible way of partnerships addressing both local and national crime reduction priorities. The [Crime Reduction Teams in the regions in England and the Crime Reduction Team in the National Assembly for Wales](#) will work in support of partnerships, identifying priorities for expenditure, and quality assuring SCI activity plans. We will be asking partnerships to focus on crime hotspots, repeat victims and repeat offenders.

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<sup>122</sup> <http://www.crimereduction.gov.uk/bri.htm>



Partnerships will have the flexibility to spend SCI funding on revenue or capital items.

The Safer Communities Initiative (SCI) is provided for Partnerships to:

- deliver a complementary activity plan of situational and social crime reduction interventions, based on what works and which secure the maximum impact on crime reduction outcomes.
- deliver a range of activities which is aligned with, and complementary to, the Communities Against Drugs programme and has robust links with Neighbourhood Renewal funding.
- build the capacity required to deliver strategies successfully, and lever in other sources of funding.

The funding has been allocated to Crime and Disorder Partnerships using a funding formula based on recorded crime (80%) and an even split (20%). Each partnership has been allocated some funding with the likelihood of more funding in subsequent years. Partnerships can plan on the basis that they will receive at least the same again in 2003 - 2004.<sup>123</sup>

As an example of how this funding translates into local action, a report in the Coventry Evening Telegraph sets out how the county's CDRP initiated a scheme in June 2003 to provide free security evaluations and fittings of secure locks for elderly and vulnerable people. The scheme is expected to help 200 people in its first year and is to get a van to carry specialist items and materials for its work in Nuneaton and Bedworth. It is aimed at people aged 55 and over or those on benefits, and includes the fitting of free locks, free security mirrors, free door chains and smoke alarms. Vulnerable properties have been identified and prioritized by the CDRP, but with input from the borough's Neighbourhood Watch schemes. Funding for the scheme has come from various sources within the partnership. Nuneaton Borough Council has identified funds from its Home Office (Communities Against Drugs and Safer Communities Initiative) allocation, further money has come from Warwickshire County Council and the Police Authority. The Chief Inspector in charge of community safety for Warwickshire Police and a local councillor are both reported to have praised the scheme.<sup>124</sup>

### **C. The Here to Help Programme**

The Here to Help (HELP) Programme is a three-year initiative challenging household poverty by providing simple, practical ways to help make 500,000 homes warm, safe and

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<sup>123</sup> <http://www.crimereduction.gov.uk/safercommunities.htm>

<sup>124</sup> "Crime Protectors to Take to the Road", *Coventry Evening Telegraph*, 13 June 2003, p5.

comfortable in some of the country's most deprived communities. It is aimed at lone parent families, older people and the disabled nationwide.

British Gas (BG) has joined in partnership with seven major national charities and social housing providers to create a nationwide initiative dedicated to tackling household poverty. RNIB and charity partners Capability Scotland, Gingerbread, Help the Aged, Save The Children, The Family Welfare Association, SCOPE and National Debt Line will be working with BG. £150 million has been committed by BG over the three years of the project.

Part of the programme may offer free safety devices such as spy holes and door chains. Further information is available from the website [www.house.co.uk/HELP](http://www.house.co.uk/HELP) or from the helpline on 0845 778 9700.

At the local level, local authorities operate schemes which include the provision of security measures. One example is that offered by the Vale of the White Horse District Council. The Council actively promotes energy efficiency and home security to all householders in the Vale and offers a wide range of related products and services in partnership with others. A range of free and discounted products are available to homeowners and householders renting privately. Products include: the provision of security locks to all external doors; the provision of window locks to all ground floor windows and any other vulnerable windows, and the provision of smoke alarms for each floor level of the dwelling. More information is available at [www.whirehorsedc.gov.uk/Housing/OperationsDetailPage4-767.asp](http://www.whirehorsedc.gov.uk/Housing/OperationsDetailPage4-767.asp) or on freephone 0800 56592 865.

## Appendix 6 Economic instruments to promote energy efficiency

The latest Government consultation on economic instruments to promote household energy efficiency closed in October 2003.<sup>125</sup> A summary of responses<sup>126</sup> was published alongside the Pre-Budget Report. Measures considered included reduced VAT on energy-saving materials and energy-efficient products, capital allowances for businesses to lease energy-saving equipment to domestic households and registered social landlords, and a domestic business allowance.

During a recent debate, the Economic Secretary to the Treasury, John Healey, summarised the responses:

The responses to the consultation ... were strongly supportive of the use of fiscal instruments to encourage such household energy efficiency. ... 120 out of the 126 respondents supported the greater use of reduced VAT rates and that 67 of the 126 supported the use of capital allowances and enhanced capital allowances to help companies to write off investments in energy savings equipment for households and to social landlords.

Following the strong support expressed in responses to the consultation, the Government confirmed, in its Pre-Budget Report in December 2003,<sup>127</sup> that it considers there to be a case for using economic instruments as part of a wider package of measures to promote greater energy efficiency. However, until the outcome of the EU VAT negotiations and the Government's review of corporation tax are clearer, it is too early to make detailed announcements. The Government will give further consideration to what such measures entail and make a further announcement at about the time of the Budget 2004.<sup>128</sup>

Fiscal plans will make interesting reading coupled with the Government's annual report on progress towards the goals set out in the Energy White Paper which will include energy efficiency. The publication of such a report was placed on a statutory basis by the *Sustainable Energy Act 2003*. The report must be published each calendar year, beginning in 2004, and each must cover the year leading up to the 24 February (the anniversary of publication of the White Paper on 24 February).

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<sup>125</sup> DEFRA & Treasury, *Economic instruments to improve household energy efficiency: consultation document on specific measures*, August 2003

[http://www.hm-treasury.gov.uk/media/06D70/energy\\_efficiency.pdf](http://www.hm-treasury.gov.uk/media/06D70/energy_efficiency.pdf)

<sup>126</sup> Treasury, *Economic instruments to improve household energy efficiency: consultation document on specific measures, summary of responses*, December 2003,

[http://www.hm-treasury.gov.uk/media/D0EA0/houseeneffic\\_sumresp03.pdf](http://www.hm-treasury.gov.uk/media/D0EA0/houseeneffic_sumresp03.pdf)

<sup>127</sup> Pre-Budget Report 2003 Cm 6042

[http://www.hm-treasury.gov.uk/media/27D6D/pbr03chap7\\_145.pdf](http://www.hm-treasury.gov.uk/media/27D6D/pbr03chap7_145.pdf)

<sup>128</sup> HL Deb 8 January 2004 c252

The current position about VAT and capital allowances is set out below.

## **A. VAT on energy-saving materials**

During the last five years the Government has cut from 17.5 per cent to 5 per cent the rate of VAT that applies to the professional installation of energy-saving materials and products. Speaking during a Westminster Hall debate, John Healey, the Economic Secretary to the Treasury, succinctly summarised the reductions which have occurred in three phases:

... we have built up an extensive range of reduced rates for installations of energy-saving materials and products. We introduced the first ever VAT reduced rate for installations of energy-saving materials in 1998 and we have extended it twice, in 2000 and 2002, so that it now covers the installation of a wide range of energy-saving products with particular emphasis on helping the most vulnerable households...

First, we introduced a reduced rate of 5 per cent. VAT for the supply and installation of certain energy-saving materials, such as insulation products, in the homes of elderly or less well-off people, provided that the work was grant-funded under a relevant scheme. The reduced rate was introduced to make sure that the grant funding could go further, allowing more vulnerable households to benefit.

Two years later, we were able to extend the relief to the supply and installation of certain energy-saving materials in all residential accommodation, even if the work was not grant funded. At the same time, the list of energy-saving materials was extended to include installations of solar panels, wind and water turbines to ensure that the relief covered all products whose primary purpose was to save energy. In addition, we extended the reduced rate to include relief for contractor installations of central heating systems and heating appliances in the homes of less well-off elderly people, reflecting our expansion of the home energy efficiency scheme to include those products.

More recently, in the 2002 Budget, to ensure that extra help goes to the most vulnerable households and to reflect the extension of the home energy efficiency scheme as part of our fuel poverty strategy, we extended the reduced rate of VAT again to include grant-funded installations of factory-insulated hot water tanks, domestic combined heat and power units, and heating systems that use renewable energy... <sup>129</sup>

The Government's power to introduce new VAT reliefs is constrained by European VAT law. Without changes at European level it cannot introduce a reduced rate for energy-saving materials that are installed by DIY, nor can it tax competing goods at different VAT rates. A PQ explains why the reduced rate cannot be exceeded:

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<sup>129</sup> HC Deb 6 January 2004 cc74-75WH

**John Healey:** European Court of Justice case 416/85 concerned the scope of the UK's zero rates. The Court held that zero-rating could only be justified for clearly defined social reasons and for the benefit of the final consumer.

The long-standing formal agreements with our European partners make entirely separate provision for reduced rates (of no lower than 5 per cent.) and allow relief for the 'supply, construction, renovation and alteration of housing provided as part of a social policy'. Under this provision, the UK has been able to introduce a reduced rate for installations of certain energy-saving materials in homes. Our current policy is to restrict the relief to the installation of materials whose primary purpose is to save energy, and the European Court case has no bearing on this limitation.

As I explained in my answer of 22 January, we are not able to introduce a reduced rate of VAT for energy-efficient or energy-saving materials sold direct to the public. This is not because of the European Court case, but rather that the reduced rate provision makes clear that goods and materials can only have a reduced rate when they are supplied as part of an overall service.<sup>130</sup>

With regard to the European VAT review and their likely outcome, John Healey is not confident that it will enable the Government to increase incentives further:

It is disappointing that the future of those European-level negotiations on reduced rates for VAT remain uncertain. In the short term, those negotiations are unlikely to deliver an opportunity for VAT rates to be used to encourage domestic energy efficiency beyond the existing provisions, but we remain committed to securing new reduced rates for DIY materials that help to save energy. Whatever the outcome of the VAT negotiations, the Government will examine what further options under existing VAT legislation are open to us.<sup>131</sup>

## **B. Capital allowances**

The current position on capital allowances was summarised in the Pre-Budget Report, December 2003:

**7.20** Enhanced capital allowances (ECAs) for investments in approved energy-saving technologies were introduced in 2001 and currently cover more than 6,000 approved products.

Administration of the ECA scheme is managed by the Carbon Trust, an independent not-for profit company funded principally from revenues recycled from the CCL.

**7.21** In Budget 2003 the Government announced the addition of automatic monitoring and targeting equipment to the ECA scheme for energy-saving

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<sup>130</sup> HC Deb 25 February 2003 c388W

<sup>131</sup> HC Deb 6 January 2004 c76WH

equipment. Further technologies were also added to the existing boiler, compressed air and refrigeration categories, effective from August 2003. The addition of these groups will be worth £5 million during their first full financial year. The Government believes that ECAs can be an effective method of helping business overcome financial barriers to installing energy-efficient technologies and continues to consider the case for additional technologies.<sup>132</sup>

Further measures on enhanced capital allowances will depend upon the outcome of the Government's consultation on corporation tax which ended on 3 November 2003. There was a substantial interest and substantial number of responses and the Government is now considering the implications of them.<sup>133</sup>

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<sup>132</sup> Pre-Budget Report 2003 Cm 6042

[http://www.hm-treasury.gov.uk/media/27D6D/pbr03chap7\\_145.pdf](http://www.hm-treasury.gov.uk/media/27D6D/pbr03chap7_145.pdf)

<sup>133</sup> HC Deb 6 January 2004 c76WH