Since 2000, when the previous report was published, there have been significant policy developments relating to construction and so I see this review as having two aims. One is to pull together in one source document the current main strands of Government policy and industry initiatives related to Sustainable Construction. The other is to encourage industry to respond positively and propose its own targets - where industry should go and what industry can do. This then provides an effective basis to guide future government policies where they are relevant to construction. Such a framework will focus on the principle of Sustainable Development to which the Government as a whole is signed up.

The Review has embraced the views and input from many within the construction industry and from other interested parties, and I thank them for their contributions. Particular thanks goes to the Sustainability Forum, under the chairmanship of Ian Coull, and the Sustainable Development Commission, particularly its Business Commissioner, Dr Stewart Davies for their active involvement in the review. This represents the kind of partnership that I had hoped to see.

The publishing of the Review is not the end product. It is a first step in the development of industry targets for the future which will be carried out with the assistance of the Sustainability Forum. I wish the targets, once refined, to be seen as challenging and realistic; and ones which will encourage industry to respond positively to some of the big issues it faces. They will also help Government identify how it can better support change in the industry to deliver sustainable construction. In doing this, Government will continue to work with industry to reduce the need for further regulation by application, where appropriate, of voluntary mechanisms.

I therefore invite all interested parties to take part in the development of these targets. Together we can move towards an improved application of the principles of Sustainability within construction.

Rt Hon Margaret Hodge MBE MP
Minister of State: Industry and the Regions
A review of Sustainable Construction

The future of our planet depends on our willingness to act now to ensure that as we build to improve the quality of life today we do not compromise the quality of life for future generations.

The UK Government is committed to the principles of sustainable development. As one of the UK’s leading industries, responsible for 8% of GDP and employing 1.5 million people, construction can lead the way in integrating sustainable development in all of its activities.

In 2000, the Government published its Strategy for Sustainable Construction Building A Better Quality of Life which presented a way forward for Government and industry. This Review looks at what we have achieved during the past five years. It aims to describe current work, initiatives and Government policies relevant to sustainable construction, to increase awareness of sustainability in the context of construction. It also aims to provide an effective basis to guide future government policies and to set out the future direction of the construction industry.


The strategy identifies four shared priorities across the UK that have strong resonance within the sustainable construction agenda. They are: Sustainable Consumption and Production; Climate Change and Energy; Natural Resource Protection and Environmental Enhancement; and Sustainable Communities.
Figure 1 The five guiding principles of sustainable development

**Living Within Environmental Limits**
Respecting the limits of the planet’s environment resources and biodiversity and ensure that the natural resources needed for life are unimpaired and remain so for future generations.

**Ensuring a Strong Healthy and Just Society**
Meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity for all.

**Achieving a Sustainable Economy**
Building a strong, stable and sustainable economy which provides prosperity and opportunities for all and in which environmental and social costs fall on those who impose them (polluter pays) and efficient resource use is incentivised.

**Promoting Good Governance**
Actively promoting effective participative systems of governance in all levels of society – engaging people’s creatively, energy and diversity.

**Using Sound Science Responsibly**
Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainly (through the precautionary principle) as well as public attitudes and values.
There has been much progress since the original Strategy *Building A Better Quality of Life*, including:

- UK Climate Change Programme;
- Aggregates Levy and Landfill Tax;
- Formation of Sector Skills Councils: Construction Skills, Asset Skills and Summit Skills;
- Health and Safety: the incidence rates for fatal major and over-three-day injuries for 2003/04 were the lowest since current records began;
- Launch of Respect for People Code of Good Working Health and Safety Practices – 350 organisations have signed up so far;
- Formation of Constructing Excellence;
- Energy White Paper 2003;
- Revision to Part L of the Building Regulations;
- Code for Sustainable Homes;
- Site Waste Management Plans 2004;
- Planning Policy developments;
- The Sustainable and Secure Buildings Act;
- Design for Manufacture.

Fuller details of these and other initiatives are in the main body of the Review. A comprehensive listing can be found at the website:

This Review has enabled us to develop a vision for the future. It is based on initial work by the Sustainability Forum and was shaped by responses to our consultation and by the Stakeholder workshop held as part of this Review process. Industry’s initial thoughts on the targets, as collated during the public consultation phase of the review can be found on the DTI website: www.dti.gov.uk/sectors/construction/sustainability/strategy/page13543.html

This vision highlights key issues across the spectrum of sustainability, and challenges industry with specific objectives. These are listed overleaf, together with relevant existing government targets.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Government targets</th>
<th>Metric</th>
<th>Industry’s vision</th>
<th>Industry’s vision of interim progress date</th>
<th>Final achievement date</th>
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<tbody>
<tr>
<td>Climate change/energy</td>
<td>Publicly funded houses to be CSH level 3</td>
<td>CO2 emissions 20% below 1990 levels by 2010. 1990 level was 165mt so target is 132mt.</td>
<td>Zero CO2 building emissions (in m2/yr) (EA support)</td>
<td>20% of new build by 2010; existing by 2015</td>
<td>100% of new build by 2020; existing by 2030</td>
<td>DCLG (publicly-funded housing) DEFRA (overall climate change) planners designers</td>
<td>Building regulations; planning; taxation; incentives; enforcement; CSR awareness</td>
<td>Developers; clients; designers; contractors</td>
</tr>
<tr>
<td>Waste</td>
<td>Publicly funded houses to be CSH level 3</td>
<td>Tonnes to landfill. UKSD framework indicator (all industries) 1998/99 100mt to landfill. 2002/03 96mt to landfill.</td>
<td>Zero waste (EA support)</td>
<td>2006; annual review</td>
<td>2020</td>
<td>Government; developers; Designers; clients; manufacturers WRAP (Waste Resource Action Programme)</td>
<td>Legislation; regulations; enforcement; demolition protocol; taxes; incentives; CSR; awareness</td>
<td>Local authorities; contractors</td>
</tr>
<tr>
<td>Materials</td>
<td>Publicly funded house to be CSH level 3</td>
<td>‘A’ rated materials used/% reduction/LCA declaration for products.</td>
<td>Use of sustainable materials/ reduced primary materials consumption. Increased use of recovered materials.</td>
<td>50% reduction by 2015; annual review</td>
<td>90% by 2025</td>
<td>DCLG; manufacturers; developers; contractors</td>
<td>Regulation; codes; green guide; supply chain monitoring</td>
<td>Local authorities; planners; companies; specifiers</td>
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<tr>
<td>Costs</td>
<td>Treasury already defines value for money as the optimum combination of whole-life cost and quality to meet the user requirement</td>
<td>% deployment (new build selected on basis of WLC); Construction Inflation Index</td>
<td>Change to whole-life costing of (public) assets</td>
<td>2010</td>
<td>2020</td>
<td>OGC; city institutions and funders; clients</td>
<td>Changed policy – new public finance paradigm /voluntary (market mechan-isms)</td>
<td>PFI bidders; designers; suppliers</td>
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<tr>
<td><strong>Water</strong></td>
<td>Publicly funded houses to be CSH level 3</td>
<td>Litres/person/day</td>
<td>Reduced consumption (especially potable)</td>
<td>+25% reduction by 2010 in consumption (120 ltrp/d)</td>
<td>By 2015</td>
<td>DCLG; OFWAT; local authorities; planners</td>
<td>Building regulations; planning; enforcement; billing and metering; water trading; awareness.</td>
<td>Developers Companies Public demand</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Phase out of high flow fittings</td>
<td></td>
<td>By 2020</td>
<td></td>
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<tr>
<td>Flood Risk</td>
<td>Peak run-off rates and annual volumes of run-off no worse than the existing conditions for the site</td>
<td>Runoff as a percentage of pre development site runoff</td>
<td>Runoff reduced to greenfield runoff rate or better. Rainwater harvesting implemented</td>
<td>Runoff maintained as existing by 2006</td>
<td>All sites runoff at greenfield or better by 2015</td>
<td>DCLG; OFWAT; local authorities; planners</td>
<td>Building regulations; planning; enforcement; billing for drainage</td>
<td>Developers Companies Public demand</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Surface water is managed on sites using SUDS approach to drainage</td>
<td>Surface water discharges from development do not adversely impact on water quality</td>
<td>Appropriate Water Framework Directive quality objectives met.</td>
<td>2010</td>
<td>All sites drained using SUDS approach by 2015</td>
<td>DCLG; OFWAT; local authorities; planners</td>
<td>Building regulations; planning; enforcement; billing for drainage</td>
<td>Developers Companies Public demand</td>
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<tr>
<td>Quality aesthetics</td>
<td>DCMS is in the process of reinvigorating the ministerial Design Champion role which promotes quality design throughout Government. All publicly funded houses to be CSH level 3</td>
<td>CABE- provided exemplar buildings/DQI Post occupying evaluation of all public buildings every 5 yrs (to be considered)</td>
<td>Quality and aesthetics standards c.f. Sweden/ publicly accessible buildings</td>
<td>Strategic Forum for Construction target: by end of 2007, 60% of all publically funded/PFI projects (£1m+) to use DQIs and 20% of those projects &gt;£1m in value</td>
<td>2008/2010</td>
<td>DCLG; CABE; professional institutions; BRE; regional Design Champion’s Clubs</td>
<td>Measurement against exemplars; increased legislation</td>
<td>Finance institutions; Developers Construction industry</td>
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<td>Skills</td>
<td>Developing Sector Skills Councils that are valued, appropriately focused, and have viable strategies that are implemented effectively, and which contribute to improved business performance in the industry</td>
<td>Capacity building; number of skilled shortfall; % trained annually; quality of life measurement</td>
<td>Zero skill shortage (trades and professions; existing workforce and trainees)</td>
<td>25% of existing workforce trained; and 100% of new trainees</td>
<td>Annual review</td>
<td>Government; CITB- Construction Skills; Summit- Skills; professional organisations</td>
<td>Conscription; mandatory courses; CSR; Awareness; Mandatory SKILLCARD</td>
<td>For access to sites</td>
</tr>
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<td>Safety</td>
<td>The Revitalising Health and Safety strategy statement, (June 2000), set national targets for improving health and safety performance by 2010:  - to reduce the incidence rate of fatalities and major injuries by 10%;  - to reduce the incidence rate of cases of work-related ill health by 20%;  - to reduce the number of working days lost per worker from work-related injury and ill health by 30%; and to achieve half the improvement under each target by 2004.</td>
<td>Accident frequency rate</td>
<td>Zero RIDOR (reported accidents)</td>
<td>2006; annual review</td>
<td>2020</td>
<td>Individual Clients; HSE</td>
<td>Process actions; training</td>
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Safety strategy (reported HSE training contractors statement, (June 2000), set national targets for improving health and safety performance by 2010:  - to reduce the incidence rate of fatalities and major injuries by 10%;  - to reduce the incidence rate of cases of work-related ill health by 20%;  - to reduce the number of working days lost per worker from work-related injury and ill health by 30%; and to achieve half the improvement under each target by 2004. | Accident frequency rate | Zero RIDOR (reported accidents) | 2006; annual review | 2020 | Individual Clients; HSE | Process actions; training | Designers; contractors |
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<td>Facilities Management</td>
<td>All Govt. estates to write requirement into contract</td>
<td>Logbook ensuring design &amp; manufacture knowledge is captured</td>
<td>Contractor to provide logbook for effective operation of buildings</td>
<td>All Govt. procurement and 20% of commercial new build by 2010</td>
<td>2020</td>
<td>OGC; City institutions &amp; funders; clients</td>
<td>Voluntary Code of practice</td>
<td>Designers; contractors</td>
</tr>
<tr>
<td>Equity/ Respect for People</td>
<td>Respect for People adopted by the industry as a core business value</td>
<td>Number of commitments; DQI assessment</td>
<td>Fair trade &amp; Respect 4 People commitment</td>
<td></td>
<td>2010</td>
<td>Government lead; CABE; H&amp;S</td>
<td>Participatory processes; DQI</td>
<td>DCLG; planners; peer pressure</td>
</tr>
</tbody>
</table>
Most notably, after the successful bid, the 2012 Olympics will put London and the UK at the very front of the world stage. Constructing the Olympic infrastructure and facilities, and securing its long-term legacy, offers a unique opportunity to raise the profile and strengthen the case for sustainable development in the construction industry. The Games will provide a lasting environmental, physical and economic legacy with a sustainably regenerated Lower Lee Valley. The industry should embrace the opportunities offered by the high profile Olympic development programme to showcase excellence in construction and ensure that sustainable development best practice is better understood and widely adopted throughout all the UK’s nations and regions.

Much remains to be done through the Sustainability Forum and its working groups, in conjunction with the Sustainable Development Commission, Government and industry to develop practical actions which ensure sustainability is properly mainstreamed into all of the construction industry.

The visionary targets are seen as a first step, resulting from the Review’s consultation, in the setting of challenging and realistic targets which industry can endorse. Further work, including identifying processes for monitoring and evaluating progress, will be taken forward in a series of post review workshops. Details of these workshops will be posted on the website www.dti.gov.uk/sectors/construction/sustainability/strategy/page13543.html

The targets, once refined, can be used to encourage industry to respond positively to some of the big issues it faces. They will also help Government identify how it can better support change in the industry to deliver sustainable construction. In doing this, Government will continue to work with industry to obviate the need for further regulation by application, where appropriate, of voluntary mechanisms.

This Review is the first stage in forming an effective framework – one that will guide the sector toward an improved use of Sustainable Construction. We expect to publish a further document after completing this process in 2007.
ANNEX

Main Contributors to this Review

Berkeley Group
British Cement Association (BCA)
British Electro-technical and Allied Manufacturers Association (BEAMA)
British Institute of Facilities Management (BIFM)
British Plastics Federation (BPF)
British Pre-cast Concrete Confederation
British Nuclear Group (BNG)
Building Research Establishment (BRE)
Cabinet Office (CO)
CELUFORML
Chartered Institute of Building (CIOB)
Commission for Architecture and the Built Environment (CABE)
Construction Confederation (CC)
Construction Industry Council (CIC)
Construction Industry Research & Information Association (CIRIA)
Construction Industry Training Board (CITB)

Construction Products Association (CPA)
Countryside Agency
Defence Estates (MOD)
Department for Communities and Local Government (DCLG)
Department for Culture, Media and Sport (DCMS)
Department for Education and Skills (DfES)
Department for Environment, Food and Rural Affairs (DEFRA)
Department of Trade and Industry (DTI)
East Midlands Development Agency (EMDA)
English Partnerships (EP)
English Nature
Environment Agency (EA)
Federation of Environmental Trade Associations (FETA)
Fulcrum Consulting
Future Foundations
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CABE (Commission for Architecture and the Built Environment).