

BERR | Department for Business
Enterprise & Regulatory Reform

**STRATEGY FOR SUSTAINABLE
CONSTRUCTION**

Analysis of Responses to
Public Consultation

FEBRUARY 2008

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Executive Summary

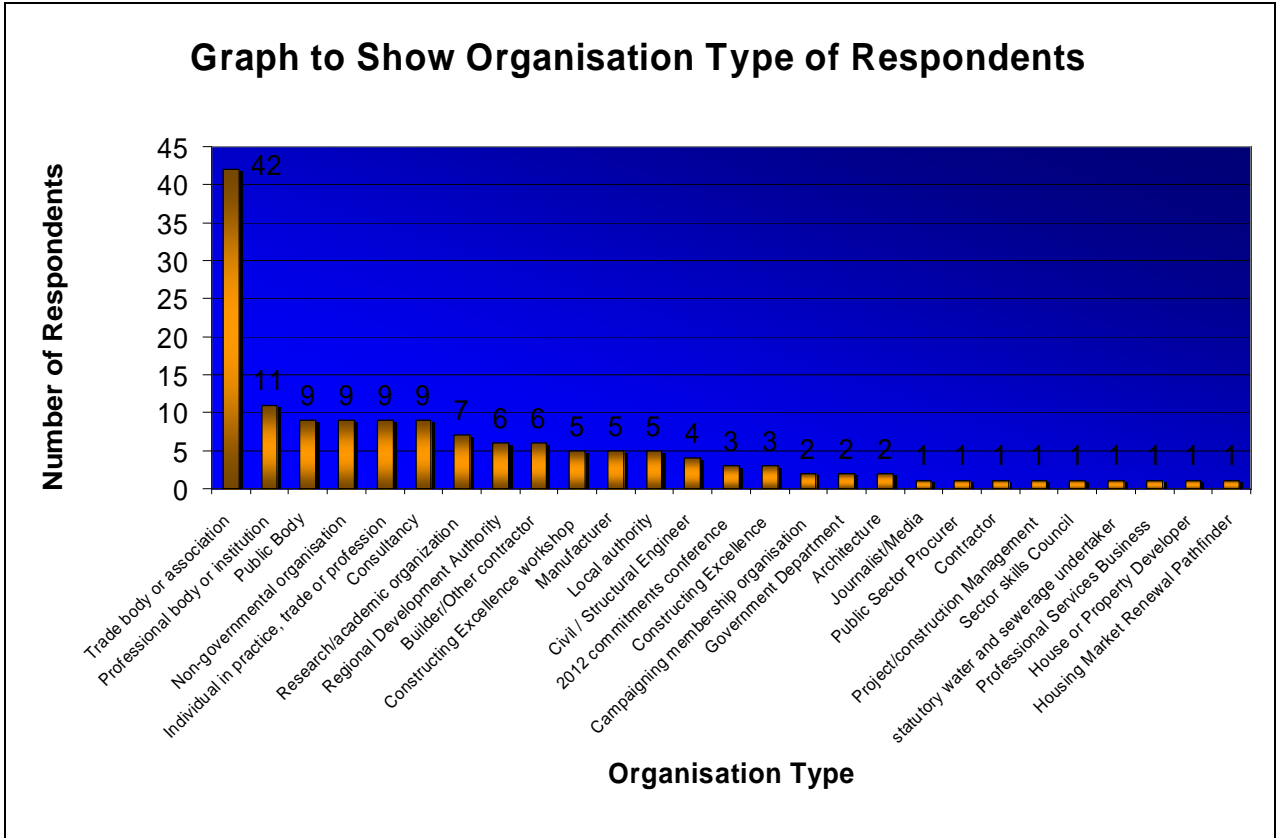
This report analyses responses to the consultation on the draft Strategy for Sustainable Construction. The aim of the consultation was to gather views on the draft Strategy. 149 responses were received and comments analysed against each of the 28 questions in the consultation document. This report reflects the views of the respondents to each question in sequence.

CHAPTER 1: INTRODUCTION

The Consultation

1. This report analyses responses to the consultation on the Strategy for Sustainable Construction (the Strategy) which opened on 30 July 2007 and closed on 30 November 2007. The aim of the consultation was to gather views of the industry and others on the draft Strategy for Sustainable Construction.
2. The Strategy for Sustainable Construction aims to:
 - make a step change in the sustainability of the construction industry and then to drive continuous improvement;
 - support the development of a committed, skilled and adaptable workforce and take forward change in the construction industry in order to enhance efficiency; and
 - create long term certainty so that industry can innovate and lead internationally in products and services for sustainable construction.
3. This process was aided by a series of 25 workshops, held around the country in late 2007, to ensure that the opinions of as many as possible were gathered.
4. A total of 149 responses were received from a range of organisations and individuals. The graph below illustrates that four times as many responses came from Trade Bodies and Associations than from any other category, possibly reflecting the fragmentation of the industry¹.
5. The consultation document requested that respondents address 28 questions divided among each of the 11 chapters within the draft Strategy; there was an initial section of 11 general questions addressing more wide-ranging issues relating to the draft Strategy.
6. These general questions were to allow a wide ranging discussion on the issues associated with the draft Strategy; the chapter questions were more narrowly focused to allow debate to progress in these key areas.
7. A list of those respondents who were willing to have their names and responses disclosed can be found in Annex A.

¹ The JCT Povey Lecture, Joining up the dots: How the construction industry should punch its weight, James Wates, 11 October 2006



Graph to Show Organisation Type of Respondents

Next Steps

8. Following the publication of this analysis, Government will continue to work with the construction industry and other interested bodies to develop the Strategy for Sustainable Construction.
9. It is expected that the launch of the Strategy will take place in the summer of 2008.

CHAPTER 2: ANALYSIS OF RESPONSES BY QUESTION

Q1: Do you think that the broad coverage of the key themes and sub themes in this draft Strategy is correct? If not, then what themes or sub themes should additionally be covered?

10. There was general agreement that the key themes in the draft Strategy were correctly identified, though some suggested greater emphasis on other areas.
11. 13% of respondents felt that the Strategy should put greater emphasis on intervention in the existing building stock, both domestic and non-domestic, including the use of grants and taxation to support sustainable refurbishment.
12. Some respondents also indicated a need to complement the environmental focus of the Strategy by greater attention to the social and economic aspects of sustainability. In developing the economic impact, the Strategy should have regard to the affordability of the various measures proposed and should say more on the positive business case for sustainability.
13. Some respondents indicated that the Strategy would benefit from a clear statement within the vision that construction supports the creation and maintenance of sustainable communities; and that the construction industry needed to work more closely with planners to ensure they delivered a holistic approach to sustainable communities. In this respect, suggestions were made to include the role of urban design within the scope of the Strategy.
14. Some respondents favoured a stronger link within the Strategy with planning and the recent Planning White Paper of May 2007².
15. Other suggested that the scope of the Strategy should be widened to include infrastructure and its role in addressing climate change, water, biodiversity, waste and materials. It should also indicate the role of infrastructure and the spaces between buildings in delivering more sustainable buildings.

² Planning for a Sustainable Future: White Paper, Department of Communities and Local Government, 21 May 2007

16. Further comments were that the Strategy should serve as a framework to strike the right balance between economic, social and environmental considerations. The Strategy should set out clearly where urgent action was required on climate change and resource scarcity. The Strategy should define desired outcomes in the short, medium and long term and align targets and actions to specific sectoral activity.
17. Respondents commented on the need for a stronger overarching narrative with a focus on the more significant targets. Respondents recommended that the Strategy needed to clarify how the key messages would be communicated to all parts of the industry and how progress towards the Strategy's aims would be supported (and funded) by Government. Additionally, the Strategy should incorporate a section on leadership identifying key roles and responsibilities of the organisations delivering the Strategy and place more emphasis on how the Strategy would be delivered.
18. Other key suggestions included widening the Strategy to include transport impacts, adopting carbon neutrality as an underlying principle, the role of SMEs, Information and Communication Technologies (ICT), ethical sourcing of materials, targets for new non-domestic buildings and action to adapt to climate change.

Q2: In large part the Strategy focuses on the delivery of environmental targets. Is that the right focus?

19. 37% of respondents commented that a truly sustainable construction industry would not only address environmental issues, but embrace the social and economic dimension of sustainability. Many respondents commented that the Strategy took a pragmatic approach which recognised the importance of a broad definition of sustainability, where environmental sustainability supported and enhanced the social and economic fabric. One suggestion was to divide the Strategy into social, economic and environmental targets, to provide a transparent plan of how a truly sustainable construction industry would be achieved.
20. 28% of respondents to this question agreed it was right to focus on environmental targets for a variety of reasons: environmental sustainability metrics might be easier to identify and apply compared to social sustainability metrics; the wider economic and social benefits of sustainable construction were less tangible to investors; many non-environmental sustainability issues for the construction industry were covered in other strategies such as Respect for People³; and focusing on energy saving, waste reduction and water conservation ensured clients received improved value for money and better whole life performance.
21. 26% of respondents took the view that the people agenda went wider than that being taken forward by industry. Others suggested that broader aspects needed to be addressed, to strengthen the social/people/sustainable communities themes. One respondent suggested that the impact of the industry on the community should be addressed, possibly by making the Considerate Constructors Scheme mandatory.
22. 22% of respondents thought the Strategy should contain fewer, more clearly defined targets, with, in some cases, an explanation of the current position. There were few specific suggestions as to which targets should remain and which should be deleted. Some commented that the environmental targets should be specific and prescribed in regulation. Some favoured roadmaps for the delivery of targets to give industry time to adjust to the necessary changes, while enabling early identification of any big benefit, low cost, quick wins.

³ “Our Respect for People Values”, DTI and Constructing Excellence, URN – 05/1553

23. 10% of respondents commented on the implementation of the Strategy, suggesting that there needed to be practical advice on how these changes could be implemented in a cost effective manner. The Strategy should focus on delivery and there should be an emphasis on developing processes, guidance and showcasing best practice, to enable clients to help deliver the Strategy.
24. 7% of respondents commented that regulation and not industry best-practice or targets was the only way to deliver the necessary speed of change. One suggestion was that the Building Regulations should align more effectively with the planning system which took account of wider factors.
25. Performance measurement and the ability to revise objectives and targets were seen by some as important. If Government and industry could agree on a relatively small number of priority areas and common metrics, then this task would become more manageable. Existing industry benchmarks and Key Performance Indicators (KPIs) should be taken into consideration and aligned, where appropriate, with the Code for Sustainable Homes and forthcoming changes to Building Regulations.
26. Some highlighted the importance of the business case for change and others thought SMEs should receive more attention. Some suggested there should be a clear link between sustainable construction and financial benefits for developers, the construction industry, occupiers / clients and society. The Strategy should identify potential benefits and cost savings and the benefits from sustaining and developing new and existing communities.

Q3: What other measures should Government be doing to support the construction industry to become more sustainable - this could cover any aspect of the industry and/or any aspect of its supply chains?

27. There was a variety of ideas put forward by respondents to this open question but there were few detailed suggestions. The measures suggested can be approximately grouped under the following headings:
- Fiscal controls 24%
 - Regulation 25%
 - Coordination of Government initiatives, including procurement 20 %
 - Technical standards and benchmarking 25%
 - Target Setting 20%
 - Training and communication 10%⁴
28. Suggestions in respect of fiscal measures included: direct taxation and tax relief and incentives; reduced interest rates for sustainable projects; the removal of VAT on sustainable products and materials and on Zero Carbon developments and refurbishments; and tax incentives for zero net waste construction sites. Some advocated more focus on existing buildings and more emphasis on energy efficiency grants and loan guarantees.
29. A proportion of respondents considered that the effective use and enforcement of minimum performance standards, direct regulation (e.g. Building Regulations) and other mandatory initiatives, was essential to create a level playing field. Regulation should not only remove the need for some fiscal incentives and provide confidence for the construction industry to invest in new technologies, but also drive the right behaviours through industry in a timely fashion.
30. Specific measures proposed included:
- Improve the waste management systems in the UK. A working definition of waste or a national framework for risk assessment was important to measure waste minimisation.
 - Bring the development of basements within the remit of Permitted

⁴ Many respondents made more than one suggestions, hence percentages do not sum to 100%

Development.

- Ensure post-completion performance measurement and effective application of the polluter pays principle.
 - Require post-occupancy evaluation of projects, with a feedback mechanism so that future projects could learn from previous experience.
 - Make the Code for Sustainable Homes (and Building Research Establishment Environmental Assessment Method (BREEAM) or equivalent) mandatory in April 2008 to secure sustainable measures in larger developments.
 - Make the Considerate Constructors Schemes a mandatory requirement.
 - Introduce a Code for Sustainable Buildings – covering the non-domestic building stock.
 - Make geotechnical ground investigations mandatory for all new developments, including a requirement for those investigations to be managed by competent personnel.
31. The consistency of regulatory enforcement was a strong theme.
 32. Some suggested that it was important for Government to take a coordinated and consistent approach to sustainable construction, not only across Government departments but also across national boundaries (i.e. Scotland, Wales and Northern Ireland).
 33. Others indicated that there was an overlap between the requirements of Town Planning and Building Regulations which should be addressed.
 34. There were suggestions for the appointment of a high profile “champion” to drive the integration and collaboration agenda; for a senior advisory group of Government officials to provide guidance on best practice and on the definition of a “statutory consultee” for planning applications.
 35. Some suggested that the development of long term targets would give product manufacturers the incentive to invest in new products and new processes. The more Government could provide clarity as to its long-term investment programmes and strategies, including Business Resource Efficiency and Waste (BREW), the clearer the signal to industry to create efficient supply chains.
 36. Other views were that Government procurement should take greater account of the ‘whole life’ value of the built environment; the importance of local supply chains in reducing transportation emissions and creating

more sustainable local communities and the adoption of integrated teams. Those involved in public sector procurement needed the right skills to deliver this agenda.

37. Suggestions also included that there should be greater standardisation of contracts, processes and designs. Investment programmes in schools, health and transport provided the opportunity for the public sector to set an example. Government should encourage the use of standardised schemes and benchmarks to assess the sustainability and quality of the built environment (e.g. Design Quality Indicators (DQI), BREEAM and Building for Life). The assessment of overall sustainability performance was complex and Government should make (freely) available a single simple source of detailed information and guidance with standardised definitions and metrics, to enable meaningful comparisons between products and processes. More – possibly a significant advertising campaign – was needed to be put in hand to help clients act as informed customers on sustainable construction. There should be significant advertising campaigns for sustainable construction to promote sustainability to the people making the ‘decision to purchase’.

Q4: Does industry have views on the use of building and planning standards across the country to promote the sustainability of developments?

38. There was a high level of agreement from the respondents that building and planning standards provided the essential vehicle to deliver a sustainable built environment in the UK. Some suggested Government should also offer fiscal incentives to property owners and developers to operate, maintain and upgrade their buildings.
39. There was concern about the development of different local building standards across the country, adopted via planning policy, which was confusing and added to the costs of construction. National standards, rather than local standards, were the preferred way forward and great support was given to the Code for Sustainable Homes to signpost future standards.
40. Some indicated that the Strategy should describe the link between standards, regulation and other Government initiatives. The Strategy should establish a framework which would give developers and contractors a clear picture of planning standards. The framework should set out the national minimum requirements and what was expected over and above this minimum for each local area.
41. Many suggested that sustainability should be integrated with Building Regulations, planning standards and the Common Minimum Standards to achieve clarity and ensure compliance. Enhanced mandatory building and planning standards would create a level playing field in which high quality development proposals were encouraged. Periodic tightening of the standards required through Building Regulations against a timetable announced in advance would give developers the confidence to undertake the necessary research and product development.
42. Some suggested that “Inter-operability” between the different elements of construction should be visible. A high level road-map would be helpful. This roadmap should indicate roles and responsibilities across each stage of the construction process and the tools that were available to guide the process.
43. Some contended that the planning regime should not be used to promote sustainability. For instance, requiring details of a building’s likely carbon emissions would require significant investment ahead of planning approval and increase development costs.

44. The following specific ideas were put forward in relation to standards and regulation:

- Performance-based rather than method based standards were preferred.
- Common minimum public procurement standards, contract standards and product standards should be required.
- A mandatory rating against a Code for Sustainable Buildings should also be introduced.
- The use of sustainable materials - with criteria as to how sustainable should be defined - should be made a condition of planning and Building Regulation approval.
- Sustainability objectives should be included within Section 106 agreements.
- Sustainable Drainage Systems (SUDS) schemes needed to be supported by legally binding, maintenance and adoption frameworks which could be implemented consistently across the country.
- Local Authorities should set carbon reduction targets for their area.
- There should be more focus on passive design approaches.
- The possibility of offsetting or trading renewables allocations where site conditions/locations made them impracticable.
- A central sustainability agency should be established, headed by a senior Government figure.

45. Some suggested that Building Regulations and planning requirements needed to be enforced through an adequate provision of suitably trained building control officers and planning officers. There were concerns that this was not the case at present.

46. A small number of respondents proposed the appointment of a specialist individual to advise developers on sustainability issues, just as the Police Architectural Liaison Officer provided advice in respect of security aspects of design.

Q5: What more could the construction industry do collectively to contribute to aspects of sustainability – what targets and actions could it sign up to?

47. Many respondents suggested that the construction industry should work in a more integrated way, with a focus on stimulating collective thinking to ensure that sustainability issues were taken into account at the early stages of all projects. It was felt that there was a role here for the Strategic Forum for Construction. Trade Associations could also help by promoting best practice for SMEs in areas such as health and safety, waste management and management of community impacts. Some suggested that the Strategy include regional industry programmes, possibly administered by the Regional Development Agencies (RDAs).
48. Some respondents confirmed their support for better control of waste, greater use of more sustainable materials and better design of buildings (domestic, industrial and commercial) to provide for a longer life span of the buildings.
49. Some suggested that there was significant scope for improved sharing of information across the construction sector. There were suggestions that benchmark standards should be established for a number of topics such as resource use, impact assessment, post occupancy evaluation, reporting of performance and lessons learnt. Agreeing benchmarks and openly sharing information could facilitate the setting of deliverable targets to meet sustainability objectives, not only in environmental terms, but in the social and economic aspects of sustainability such as local recruitment, diversity, training and use of SMEs.
50. Some stated that the industry (including the products supply chain) should develop credible and independent certification systems for materials used – concrete, steel, glass, stone etc. This should also cover ethical and environmental issues relating to materials sourcing.
51. Some proposed compulsory annual training in all aspects of sustainable construction, for all staff levels. Knowledge about new and improved building techniques and practices and about their practical application, needed to be widely disseminated. The industry should continue to promote apprenticeships and Continuing Professional Development (CPD).
52. To help improve the level of awareness of sustainability in construction, it was suggested that an industry best practice scheme for sustainability,

comparable to 'Investors in People', should be developed. It was suggested that public sector clients could require the standard as a pre-qualification criterion.

53. The following list outlines some of the ideas suggested by respondents:

- Standardised schemes to assess the sustainable community aspects of the built environment.
- All parts of the industry to sign up to a charter with appropriate and specific targets, to deliver improvements in their sustainability impacts.
- A coalition of top tier contractors agreeing unilaterally to adopt sustainable construction principles.
- Professional bodies to include mandatory CPD training on sustainability for their existing members.
- Professional bodies to require their accredited university degrees to include sustainable development in all relevant parts of the curriculum.
- Ensuring knowledge of best practice was disseminated, especially between competing companies through existing initiatives such as Constructing Excellence's demonstration programme.
- The materials industry could measure and publicise its sustainability performance systematically using a methodical assessment tool such as EcoProfiling.
- Greater adoption of life cycle analysis and more rigorous cost modelling techniques such as whole life costing.
- Tightening of energy efficiency targets with more focus on CO₂ emissions than on energy use.
- Greater adoption of lean techniques, a better appreciation of the opportunities offered by offsite construction and the adoption of a more efficient construction process to eradicate waste at every stage.
- A partnership approach between landlords and tenants, with each sharing the costs of effective action on sustainability.

Q6: If you represent part of the construction industry, what actions could your organisation sign up to, to improve particular aspects of sustainability?

54. Approximately 30% of respondents stated that they would be making specific commitments to improving the sustainability of the construction industry.
55. Many professional bodies were willing to make commitments in relation to membership criteria, promotion of ideas and dissemination of information, developing professional standards and the delivery of research.
56. Companies made specific commitments in relation to processes, performance of existing products and the development of new products.
57. A number of respondents stated that they would make commitments but wished to consider the final Strategy before putting forward detailed ideas.

Q7: How do you think progress should be measured against the targets? Who should be responsible for measuring, evaluating and reporting on the actions of both Government and industry in moving towards the targets?

58. There was a very broad spectrum of suggestions as to what type of organisation should coordinate the delivery of the Strategy. However, the majority of the respondents favoured an independent objective body to hold Government and industry to account. It would need to have strong links to the industry and an understanding of the issues of sustainability. Suggestions included the Strategic Forum for Construction, the Sustainable Development Commission, Centres for Excellence, the National Audit Office, the Environment Agency, Learning and Skills Councils, CABE (Commission for Architecture and the Built Environment) and the Department for Business, Enterprise and Regulatory Reform. A number of respondents also requested that whoever undertook the task, there should be a dedicated resource to co-ordinate, encourage and drive progress.
59. Others suggested an independent body at national level with Trade Associations monitoring the performance of individual sectors. A role for the Regional Development Agencies was suggested, with the National Audit Office providing verification. Some respondents suggested that local authorities should be responsible for monitoring their own buildings through the reintroduction of appropriate Best Value Performance Indicators (BVPI) or the introduction of KPIs (Key Performance Indicators) and inclusion within the Audit Commission's Comprehensive Performance Assessment which annually assesses the performance of local authorities.
60. Some suggested that delivery of the Strategy (or of its key targets) should be included in Public Service Agreements for relevant departments.
61. A number of respondents suggested that each organisation should measure its own performance and report progress annually (possibly to Government). Some suggested that these reports should be validated by an independent third party.
62. Some suggested the Strategy should set the context for the targets and describe the mechanisms for monitoring performance; and that Government should lead by example, set appropriate targets to reduce its overall impact and report progress publicly.
63. Whilst most favoured voluntary KPIs, a small number favoured imposition

- by regulation.
64. Some respondents said they would welcome the adoption of a standardised approach to KPIs. The work of Constructing Excellence on KPIs and the Construction Project Information Committee in developing the Uniclass system were seen as helpful. KPIs such as these, combined with the effective application of the Office of Government Commerce's Common Minimum Standards, validated by appropriate independent bodies across the public sector, could have a significant impact.
 65. Others proposed a thorough review of construction industry KPI data, with greater focus on environmental and socio-economic indicators and sustainable communities. This was an area where Government guidance might help.

Q8: What in your view are the major costs and benefits of this Strategy for industry, clients, Government and the public at large?

66. In general, responses to this question did not provide significant quantitative data on costs and benefits.
67. The benefits highlighted by respondents included reduced environmental impacts (noted by 20% of respondents); reduction in long-term running costs (almost 20%); the potential for exporting environmental knowledge (10%); improved image (10%); and improvements in health, safety, crime, flooding, fuel poverty and local employment (also about 10%).
68. Other suggested benefits included improving skills; benefits to business including greater clarity and streamlining of initiatives; better long term security of investment; and improved efficiency and cost management.
69. Most respondents believed there would also be costs in implementing this Strategy, though reduced running costs could mitigate some or all of these over time. Almost 40% of respondents highlighted increased capital costs; almost 20% increased training costs; 15% time and management costs; and 10% research costs.
70. Some respondents estimated the additional costs of attaining level 3 of the Code for Sustainable Homes at around £3k - £5k per house.
71. Some respondents suggested that more stringent environmental regulations could influence company decisions on whether to locate manufacturing facilities in the UK.

Q9: Do you think that there will be compliance issues for small business and one-off clients that disadvantage these groupings relative to larger businesses and clients? If so, what are they?

72. Nearly all respondents thought this would be an issue, particularly for SMEs (which did not have the benefit of economies of scale or the benefits of sophisticated management and data collection systems) and one-off clients.
73. The largest number of respondents (30%) thought there was a need for more effective information. Other suggestions included help from bigger companies to SMEs through the supply chains; effective enforcement of regulations to ensure a level playing field; support and training; national standards; and fiscal incentives.

Q10: Sustainability is a world-wide challenge, not simply a UK preoccupation. How can we best ensure that UK business takes full account of the trade opportunities this offers?

74. Respondents overwhelmingly felt the Strategy would put UK firms in a good position to undertake business overseas. More information on overseas opportunities and on UK capabilities was needed. UK businesses need to increase their rate of innovation; case studies and exemplars were ways to encourage this.
75. Some respondents suggested that UK business would be better placed to take advantage of overseas opportunities by further investment in skills; by participation in international initiatives (such as the World Business Council for Sustainable Development and international R&D programmes); by clients insisting on sustainability in procurement; and by the use and promotion of internationally recognised standards.

Q11: How can the Strategy be refreshed in future?

76. Respondents felt overwhelmingly that the Strategy needed to be tracked and refreshed in the future; and that the strong engagement between Government and industry and stakeholders should continue.
77. Some respondents suggested that progress be assessed independently and a range of organisations and individuals offered to be engaged in future reviews.
78. Views on the frequency of reviews ranged from continuous / organic reviews to a major review in seven years time. The median period suggested for reviews was 2-3 years.

Q12: What specific actions could the construction industry take to lead by example and procure projects more sustainably?

79. A significant proportion of respondents said this was an issue for clients. Indeed, some respondents said the construction industry had no role to play.
80. Many saw effective delivery of the Egan integration agenda as the key contribution the industry could make. Some respondents suggested Government could provide leadership here (some suggesting Government funding should be conditional on integration) and on whole life costing and sustainable sourcing of products and materials.
81. Some respondents pointed to the challenge of defining either sustainability or whole life costs or value. There was also a view that there should be two strategies - one for new build and one for refurbishment/renovation. A number of people welcomed the inclusion of offsite construction and saw this as a key way in which more sustainable construction could be delivered.
82. Concerns were expressed about the timber target in the absence of targets for other materials.
83. Some respondents emphasised the importance of whole life costing to the industry's future. A number of responses pointed to the focus on initial price as being a key barrier to a more sustainable industry. There were suggestions that industry should work with Government to develop one or two mandatory / standardised approaches to Whole Life Costing (WLC). Some also called for a greater focus on Corporate Social Responsibility (CSR) / environmental reporting / environmental management in procurement decisions.
84. The need to ensure the industry and its customers had the right skills to understand sustainability in the procurement context featured in a number of responses.

Q13: Is target 5.2 stretching, achievable and realistic? If not, then please propose an alternative. Which organisations should be responsible for this target?

85. Target 5.2 proposed that 20% of all projects with a value in excess of £1 million should have used the Design Quality Indicators and Building Research Establishment Environmental Assessment Method (BREEAM) or equivalents and achieve an excellent rating, by the end of 2008.
86. There was a broad range of responses and no clear consensus on this proposed target. Some felt the target was insufficiently challenging; others felt it was unachievable.
87. Several questioned whether the target was appropriate, with a number saying it was very difficult for rural buildings to attain an “Excellent” BREEAM rating. Others questioned how the BREEAM target might be measured since the assessment was confidential between the client and the assessor. Others commented that BREEAM did not assess social issues. There were questions about how the 20% of projects would be identified and whether a “blanket” £1m threshold was appropriate for all types of construction projects.

Q14: Which of the proposed actions for business do you consider to be a priority? Why? What are the barriers to implementing this action and how might they be overcome? Who should take the lead in implementing this action?

88. Some respondents felt it wrong to focus on priorities since action was required across a broad front. Others suggested a single action. Some discussed the difficulty of appraising design quality.
89. The three top priorities identified by respondents were: early supply chain engagement or integration; greater demand for Design Quality Indicators (DQIs) and BREEAM; and for clients to drive the process. There was little comment on how contractors might promote the adoption of DQIs more effectively when this was primarily an issue for the client. There was an important role for the public sector as client and scope for using better regulation to promote the uptake of BREEAM standards.
90. A number of respondents felt that more attention should be paid to the supply chain and the role of integrated teams rather than the client / designer relationship.
91. The continuing focus on initial cost rather than whole life value was seen as key. In the public sector, the distinction between capital expenditure and operational budgets characterised the issue. Lack of knowledge sharing between professions could result in “partial” advice and guidance.

Q15: If you agree that the proposed key actions and deliverables covered in the People Agenda reflect the main priority areas to deliver sustainability for the industry, what specific work streams and targets would help deliver these commitments?

92. Most respondents (including ConstructionSkills) agreed that the proposed key actions and targets reflected the main priority areas, but did not comment specifically on the targets. A few specifically affirmed their agreement; and a few others thought they were insufficiently challenging or expressed concern about target dates.
93. Responses were received from a wide range of organisations - ConstructionSkills, professional institutions, trade bodies, companies and colleges, as well as a mix of other organisations. Some respondents said they would like more details on proposed actions. Few common threads could be identified. A few respondents offered views about the scope of the People agenda and the importance of involving end users, wider communities and the public.
94. Some respondents said that the areas addressed by the People agenda were too focused on trade skills and could pay more attention to the needs of professionals and designers and to wider regeneration issues. The role of the professional institutions was considered important.

Q16: Do you agree that these workstreams and targets should be peer reviewed by industry experts (e.g. relevant SSCs), prioritised, and Action Plans developed to take the best ideas forward?

95. This attracted overwhelming endorsement. Some respondents identified particular bodies that might be involved in any peer review – e.g. the Academy of Sustainable Communities and other industry experts.

Q17: We would be grateful for information from you on specific pieces of legislation which are impeding your ability to be more sustainable in your business operations.

96. Many respondents favoured better and simpler regulation. A number of respondents highlighted the importance of more effective planning and Building Control (and enforcement) system to help to deliver change, achieve clarity, ensure compliance and lead to improved standards.
97. A number of respondents considered the UK waste regime to be too complex (particularly for SMEs) and that there needed to be greater clarity in the definition of waste and current licensing, recycling and reuse issues.
98. Some respondents felt there was a positive role for regulation to frame and drive up standards, while creating a period of certainty during which industry could adapt its processes and products to the new standards. Some said that regulation should be complemented by other initiatives such as financial incentives to encourage innovation.
99. Some respondents said the Strategy was an opportunity to develop mechanisms to change things for the better. Many contributors from the industry, institutions and trade bodies were committed to this change. They looked to Government leadership to set a framework for change to which individuals and businesses could commit.

Q18: Are there other actions that the Government should be taking to help the construction industry rise to the challenge of climate change?

100. Although a wide variety of suggestions were offered by respondents to this question, the vast majority (about 75%) were concentrated around just 10 themes.
101. Many respondents said that the existing stock of buildings (mostly domestic, but there were also some references to non-domestic buildings) needed to be improved, though there were few suggestions as to how this should be accomplished. The focus was on improving energy efficient performance of these buildings, rather than on adaptation.
102. Approximately 7% of responses urged the establishment of climate change adaptation targets.
103. Respondents urged the promotion of specific technologies, e.g. the generation of energy from renewable sources; use of particular products, sometimes with higher thermal mass; or innovations to make buildings more adaptable to future climate change.
104. Some respondents thought more information should be provided by Government on these issues. A number sought clearer definitions by Government, e.g. on Zero Carbon and carbon neutrality. Some suggested fiscal incentives.
105. Some responses urged improvements in compliance software; improvements in tools such as BREEAM; and recommended defining a standard for carbon counting.
106. Other areas which attracted comments were: a need to address embodied energy in carbon footprints; a need to focus on non-domestic buildings; tightening the planning system; sponsoring more research; and infrastructure considerations.

Q19: What targets could industry specifically sign up to, to increase the positive impact they can have on climate change through their activities?

107. About 20% of respondents suggested industry could consider some form of energy reduction targets. Respondents also suggested that industry should be interested in the development and use of innovative products; measuring their carbon footprints; driving good practice through supply chains; procurement practices taking account of carbon emissions; consideration of Whole Life Costing in design specification; training; and signing up to development of specialist skills.
108. Almost 10% of respondents suggested that product suppliers (especially in the renewables sector) should produce verified data to support the claims made against their products. There were also suggestions of carbon league tables to name and shame.

Q20: Do the targets and milestones in this chapter appear realistic, achievable and sufficiently ambitious over the time frames envisaged? If not, then please suggest alternatives, and who should be responsible for their implementation.

109. Around 75% of respondents who answered this question agreed that the proposed targets were realistic and achievable. A smaller proportion (15%) favoured more challenging targets.
110. The only comment on the first target (All new homes built with English Partnerships or Housing Corporation funding to meet Level 3 of the Code for Sustainable Homes (105 litres per person per day) from April 2008) was that there should be a link to the higher levels of the Code for Sustainable Homes.
111. A small number of respondents to the second target felt that the target level of litres per head/ per day set in the Building Regulations in 2008 should be 100 litres/head/day and not, as proposed, 125 litres/head/day.
112. Some respondents felt that the fourth target (reduction in water consumption by 25% on office and non-office estate by 2020 relative to 2004/05 levels) needed greater clarity.

Q21: Are there any issues which have not been covered which you feel should be addressed? If so, what are they and what targets and milestones would you propose?

113. A fifth of responses felt Sustainable Drainage Systems (SUDS) could make an important contribution to surface water management. Just over half of those that discussed SUDS explicitly supported consultation on the future development of SUDS. Smaller numbers (7%) raised issues regarding the long term payment and maintenance agreements required for SUDS to function correctly. A range of other points regarding SUDS were also made, including the suggestion that it should not be restricted to the urban context. 14% of respondents felt that there was inadequate reference to the need for adaptation planning with regard to flooding, especially in light of the flooding in the summer of 2007. Rain and grey water collection and processing systems were supported by 10% of respondents, some of whom favoured an explicit target for their adoption. 7% of respondents felt that Government should encourage the public to use water more efficiently. 5% of respondents favoured water metering, the introduction of reduced flow fittings and action to address leakages in the water distribution network. Other suggestions – from a small number of respondents - ranged from support for a national water grid to desalination plants.

Q22: The aim of the proposal in paragraph 11.8 would be to create an integrated approach to maintain and where possible enhance biodiversity as a result of construction sector activity. Please say what you think would be helpful to companies in the construction sector to support the aims of maintaining and enhancing biodiversity.

114. One third of those who responded to this question cited the important role of the planning system in ensuring that biodiversity was taken into account in new developments. Better use might be made of the Planning Gain Supplement – or of Supplementary Planning Guidance - in implementing green infrastructure initiatives.
115. Just over a quarter of respondents identified the need for raising awareness of biodiversity issues and the role of training throughout the supply chain to improve understanding of how individual projects could contribute to biodiversity and the creation of public green space.
116. Just under a quarter of respondents cited the need for a simple guide, widely available, on biodiversity and for a list of quick wins on how to improve and protect biodiversity on projects. Many commented that there were already several relevant regulatory and good practice measures and requirements (e.g. Environmental Assessments, such as BREEAM and Biodiversity Action Plans) which might be included in the Strategy.
117. Some suggested that environmental assessment methodologies, such as BREEAM, could serve to enhance and measure biodiversity on sites. These tools could also be developed to provide credit for site-wide ecological enhancement. Environmental Management Plans such as BREEAM and Biodiversity Action Plans were existing mechanisms for helping the construction industry engage more effectively with conservation and biodiversity issues.
118. Some respondents suggested the Strategy should acknowledge the importance of a green infrastructure in delivering a range of social, environmental and economic benefits. Attenuating storm water run-off through the use of green roofs and green space was, for instance, seen as an important component of sustainable communities. To realise its full potential, considerations about the green infrastructure needed to be taken into account in development proposals from the outset.
119. Many respondents welcomed the proposal to convene a construction and building materials industry workshop. A result of this workshop might be a

set of guidance papers for the industry developed in partnership with a range of organisations such as local water authorities, Natural England, the Environment Agency, wildlife Trusts, NGOs (Non-Governmental Organisations), the Town and Country Planning Association, CIRIA (Construction Industry Research and Information Association), BSRIA, the Building Research Establishment, the Royal Society for the Protection of Birds (RSPB) and English Heritage.

120. Some respondents favoured a stronger emphasis on the natural environment in the targets for sustainable construction. Possible targets could be impacts on biodiversity which were neutral or enhancing (e.g. in terms of species and habitats), which could be measured through BREEAM or CEEQUAL (Civil Engineering Environmental Quality and Assessment Scheme).

121. Other suggested possibilities included:

- the creation of habitat maps for particular species or wildlife in the area around a site;
- encouraging consultants and developers to increase habitat links in the area as a means of enhancing the biodiversity of the site;
- options to contribute to biodiversity projects offsite; and
- the development of Site Biodiversity Action Plans for projects over a certain value (say £1m).

Respondents also pointed out that initial site surveys of biodiversity could be time-sensitive (subject to seasonal variations) and delay development considerably..

Q23: Is it feasible to halve construction, demolition and excavation waste to landfill by 2012 from a baseline of 2005? Is the baseline appropriate, and what specifically has to be done, and by whom, to achieve this target?

122. Just over 50% of respondents to this question said they considered the target feasible and appropriate, while only four explicitly concluded that it was not feasible.
123. Around 40% of respondents commented on the importance of a clear definition and methodology in setting and monitoring performance against this target. Opinions were divided over the use of 2005 as the baseline year; some thought more information was needed before a judgment could be made. Around 25% of respondents thought the industry needed a better understanding of the breakdown of Construction, Demolition and Excavation waste and measurement techniques.
124. Many respondents underlined the importance of an integrated approach to reducing waste. 10% questioned whether and how the target might be broken down for different sectors and companies. These respondents generally felt that it would be easier to deliver specific targets (e.g. on design, manufacturing etc.) rather than a single overarching target.
125. Some 20% of respondents highlighted the importance of the procurement and design stages in waste minimisation.
126. Respondents described a range of measures to help meet this target. The two most popular were Site Waste Management Plans; and WRAP (Waste Resource Action Program) processes, use of which might be more vigorously promoted or mandated. A smaller number of respondents highlighted the importance of strong fiscal and regulatory measures (e.g. landfill tax, aggregates levy).
127. There were also suggestions for greater training and education across the supply chain, the development of national or local waste markets/exchanges, improved supply chain co-ordination and greater investment in and better access to waste treatment centres.

Q24: Do the targets, milestones and proposals for waste appear realistic, achievable and sufficiently ambitious over the time frames envisaged? If not, then please suggest alternatives and who should be responsible for their implementation.

128. Respondents offered a range of opinions on the feasibility of the targets and milestones proposed. A third considered them appropriate and achievable targets; very few considered them as unattainable. Two respondents considered them insufficiently ambitious.
129. However, levels of support differed across individual targets. For example, a significant number of respondents (25%) considered the 2020 zero waste to landfill target unrealistic, due to economic and/or regulatory constraints, even if they agreed with the principle of reducing volumes to landfill to minimum levels. Some suggested that that particular target contradicted the acknowledgement in the Waste Strategy for England 2007 that landfill might continue to have a place for disposal of some wastes, such as hazardous wastes. Some questioned whether achieving absolute zero would deliver environmental benefits if this meant the transport of waste for long distances.
130. Alternatives to the 2020 zero waste target were proposed, such as halving waste every five years; reassessing the longer-term target after 2012; or focusing on waste reduction rather than landfill avoidance.
131. There was a strong level of interest in the concept of zero net waste. Respondents suggested that further analysis was required to develop a workable definition and an achievable target. A couple of respondents questioned the appropriateness of an "offset" target; others commented that a more reliable supply of recycled content material would be needed to make this target feasible. Some respondents suggested breaking the target down by sector.
132. Few respondents addressed the question of responsibility for implementation; those that did suggested Defra, CLG or the Environment Agency.
133. There were a number of suggestions about the measures to help reach these targets, e.g. a specific target for designers; the need for additional waste infrastructure capacity; incentives to industry to invest in technologies and processes used elsewhere.

Q25: We propose new measures in paragraphs 12.1.18 and 12.1.19 to stimulate action to improve resource efficiency, reduce waste and increase diversion from landfill (through more re-use, recycling and recovery). Are these measures achievable and sufficiently ambitious? What needs to be done and by whom to achieve these aims?

134. Of respondents who commented, most considered the measures achievable and ambitious. The proposal in 12.1.18 to include contractual requirements for measurement and improvement of material resource efficiency for projects over £1 million in value aroused neither great support or strong opposition. Some felt it added little to the introduction of Site Waste Management Plans and/or would increase the burden on industry for little gain.
135. On the proposal in 12.1.19 for waste-neutrality in major Government construction projects, there was interest in the concept but uncertainty about the methodology for calculating and meeting such a target. Several commented that Government should lead by example in public construction projects.
136. A number of respondents highlighted the importance of SWMPs (Site Waste Management Plans); a few others suggested tax incentives for systems to reduce waste at the site level, such as a take back or exchange scheme; and / or the mandatory use of WRAP processes.

Q26: New measures to stimulate action from companies to improve resource efficiency are proposed in paragraphs 12.1.20 - 12.1.24. Please prioritise these proposals and identify quick win opportunities with high impact.

137. There was a broad level of support for measures proposed in these paragraphs. Many respondents ranked all five measures in order while others highlighted those to which they attached particular importance. The results are set out in the table below (NB: as details have been added from those who did not rank all responses, rows do not necessarily add up to the same figure).

	Paragraph	1st	2nd	3rd	4th	5th
Programme for smaller contractors	12.1.20	2	0	2	2	16
Halve amount of construction waste at site level by 2015	12.1.21	3	0	7	9	3
Manufacturers to consider lifecycle of products	12.1.22	4	8	6	4	0
Designers/architects to consider waste minimisation	12.1.23	14	8	3	0	0
Contractors and Subcontractors to reduce, reuse, recycle	12.1.24	6	9	4	4	1

138. Some of those who did not rank the measures commented that they were interlinking proposals which would all contribute to waste minimisation (and to the proposed target in 12.1.21) but that there was no single “silver bullet”. Some argued that more comprehensive data on waste, waste streams and recycled content material were necessary to underpin a successful waste action plan.

139. On design, there were various comments on the need for standard sizes, greater focus on off-site construction and/or the adoption of lean standards. A number of respondents argued for an extension of producer responsibility, particularly with regard to packaging, so that products could be considered over their life cycle. The importance of full life cycle assessments was highlighted. Others suggested that voluntary sectoral

agreements could help deliver targets.

140. Other ideas included broadening the scope of codes of best practice to include more information on waste; greater use of WRAP processes; and greater education across the supply chain, possibly through resource efficiency modules linked to related training programmes.

Q27: Do you agree that the targets and milestones proposed for Materials will deliver improved resource efficiency with reduced environmental and societal impacts, and are sufficiently ambitious? If not, then please propose alternative targets.

141. Most of the respondents who answered the question thought the targets were reasonable, though some thought they might be very difficult to achieve by 2010. Some questioned whether the targets would drive improvement in performance.
142. Some respondents said that if the targets were adopted, a mechanism should be introduced to monitor performance, taking account of ongoing research on sustainability of materials. Phased implementation and shorter-term milestones were also suggested as a way of making the targets more achievable and effective.
143. A number of respondents suggested that the targets should be consistent with a forthcoming European standard on Environmental Product Declarations developed within CEN/TC 350.
144. Some advocated incentives for manufacturers and developers to create a stronger market demand for more sustainable products.
145. Some respondents expressed the need for an independent tool or certification scheme to rate the sustainability of all products and enable direct comparisons across the sector. Some suggested there was a need for specification guides and sustainable toolkit templates.
146. Other suggestions included: a target for recycled content; more widespread use of Life Cycle Assessments; and the need to support SMEs.

Q28: What can you do to implement a whole life approach to sustainability in your business?

147. Most respondents were willing to develop a whole life approach, life tools and databases in their business.
148. Some said they would promote a whole life approach among design teams rather than 'lowest cost', e.g. through conferences, training, workshops and publications.
149. Other suggestions included finding end-of-life applications for products; improving robustness of materials; introducing environmental management systems; carrying out life cycle assessments; and carbon foot-printing of business activities.

Innovation

There were no consultation questions relating specifically to innovation, however, several comments were made by respondents regarding the Innovation chapter and these are summarised below:

150. The main points made on innovation were:

- *Support for R&D or Knowledge Transfer* Some suggested that sustainable construction might not act as a direct driver for change within the industry since its economic benefits might be long-term or hidden. The industry was unlikely to fund research into sustainability or sustainable construction on its own; Government support and / or additional fiscal incentives for R&D might be needed. Some attached importance to the testing, demonstration and independent third party certification of new products or services. Greater certainty on funding streams for developers and end-users would assist product development.
- *Innovation Measurement* The consultation document suggested using the BERR Community Innovation Survey to track a target of increasing the numbers of "innovation active" companies in the sector. Respondents felt that some work was needed to clarify "innovation active" in the context of the sector and develop challenging benchmarks and targets recognised and accepted by the industry.
- *Learning from overseas* Some respondents said the UK construction industry could benefit from greater awareness of overseas experience.
- *Regulation and standards* Some suggested that Building Regulations should aim to be more outcome based and non-prescriptive to assist innovation.

ANNEX A: LIST OF RESPONDENTS

Note that respondents who wished to remain anonymous have not been included in this list

#	Respondent (Alphabetical Order)
1	2012 Construction Commitments Conference in the South East
2	2012 Construction Commitments Conference, Cambridge
3	Academy for Sustainable Communities
4	Adrian Young
5	Advantage West Midlands
6	Association for Consultancy and Engineering
7	Association of Consultant Architects
8	Atkins
9	Atkins and ICW
10	Balfour Beatty
11	Bat Conservation Trust
12	Beyond Green
13	Beyond Green
14	Birmingham City University
15	BIW Technologies
16	Bovis Lend Lease UK
17	Braintree District Council
18	British Cement Association
19	British Constructional Steelwork Association
20	British Constructional Steelwork Association
21	British Council of Shopping Centres
22	British Precast Concrete Federation
23	British Property Federation
24	British Ready-mixed Concrete Association
25	BSI British Standards
26	Building Design Partnership
27	Building Research Establishment (BRE)
28	Buildoffsite
29	Calor Gas
30	Cambridge County Council
31	Cardiff University
32	Carillion
33	Chartered Institute of Building
34	Chartered Institution of Building Services Engineers
35	Chartered Institution of Wastes Management

36	Chartered Institution of Water and Environmental Management (CIWEM) Wales Branch
37	CIRIA
38	Civil Engineering Contractors Association
39	Colin Tattersall
40	Concrete Centre
41	Constructing Excellence
42	Constructing Excellence
43	Constructing Excellence - SECBE Strategy Workshop Crawley
44	Constructing Excellence Collaborative Working Champions Group
45	Constructing Excellence in the East of England
46	Constructing Excellence Members Event
47	Constructing Excellence, Barriers and Drivers to Sustainable Development
48	Construction Clients' Group, Constructing Excellence
49	Construction Confederation
50	Construction Industry Council – Sustainability Committee
51	Construction Industry Council (CIC)
52	Construction Industry Environmental Forum
53	Construction Products Association
54	Construction Resources and Waste Platform
55	Construction Skills Regional Advisory Group network
56	ConstructionSkills
57	Northwest Engineering Institutions Sustainability Joint Venture Secretary
58	Crane Environmental
59	Crest Nicholson
60	Department of Architecture, University of Cambridge
61	Digital Access Provision Forum
62	Earthshine Solutions
63	East Midlands Centre for constructing the Built Environment (EMCBE)
64	East Midlands Development Agency (EMDA), responding on behalf of RDAs
65	Electrical and Heating and Ventilation Contractors' Associations
66	Elevate East Lancashire
67	Energy Saving Trust
68	Engineered Panels In Construction
69	Envirolink Northwest
70	Environment Agency
71	Environmental Industries Commission
72	Environmental Industries Commission
73	Eurisol – Mineral Wool Association
74	Facing the Challenge of Whole life Zero Carbon Conference

75	Forestry Commission
76	Forum for the Future
77	FSquared
78	Future Foundations
79	Future Housing UK
80	Gardiner & Theobald
81	Gleeson Building
82	Greywaterpeople
83	Ground Forum
84	GSS Architecture
85	Hackney Council
86	Halcrow
87	HBG UK
88	Hemp Lime Construction Products Association
89	House Builders Federation
90	Infrastructure Forum Members, Constructing Excellence
91	Institute of Ecology and Environmental Management
92	Institution of Civil Engineers
93	Institution of Civil Engineers - Workshop Summary
94	Internal RDAs meeting on the 10th of October
95	Katrina Lynes
96	Key points from BRE 'Talking Water 07 - Under Pressure'
97	Kingspan Insulation
98	Kingspan Limited
99	Landscape Institute
100	Lime Technology
101	Liverpool John Moores University
102	Local Government Task Force
103	Local Government Task Force
104	London Sustainability Exchange
105	London Sustainable Development Commission
106	Mace
107	Manchester Knowledge Capital
108	Mayor of London
109	Mike Jones
110	Morgan Professional Services
111	National Federation of Builders
112	National Federation of Roofing Contractors
113	National House Builders Council

114	Natural England
115	North West Development Agency
116	Oneengineer
117	Ove Arup & Partners Ltd
118	Press Button results from NE 2012 Construction Commitments Conference
119	Procure 21
120	Professional Contractors Group
121	Public Sector Construction Clients' Forum Workshop
122	Quary Products Association
123	RoofKrete Limited
124	Royal Institute of British Architects
125	Royal Institution of Chartered Surveyors (RICS)
126	SellafieldSites
127	Sir Robert McAlpine
128	South East Centre for the Built Environment
129	South Kent College
130	South West of England Regional Development Agency (SWERDA)
131	Specialist Engineering Contractors' Group
132	Sponge London
133	Sponge South West
134	Stockton on Tees Borough Council
135	Strategic Forum for Construction
136	Tarmac TopBlock
137	Taylor Woodrow Construction
138	Thames Water Utilities
139	Timber Research and Development Association
140	Timber Trade Federation
141	UK Environmental Law Association
142	UK Green Building Council
143	Waste and Resources Action Programme
144	West Midlands Centre for Constructing Excellence (WMCCE)
145	Willmott Dixon
146	WWF
147	Yorkshire Forward