



# *Building a Greener Future: Towards Zero Carbon Development*

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Analysis Report of Consultation Responses



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# Introduction

## Background

A public consultation exercise was carried out by Communities and Local Government on the “Building a Greener Future: Towards Zero Carbon Development”. The closure date for receipt of responses was 8th March 2007. Faber Maunsell Sustainable Development Group was contracted to analyse the responses received to the consultation exercise.

A total of 218 responses were received and the analysis of these is contained in this report.

## Methodology

The methodology for sorting and arranging the consultation responses received is contained in a separate “Summary Report” on the consultation exercise. This explains how the responses were entered into the spreadsheet ready for the analysis.

The responses to the 14 questions listed in the consultation document were analysed and summarised separately. The statistical analysis is based on the total number of respondents and shows how many yes and no answers were received as well as how many consultees did not respond or did not give a clear answer to the question. Responses are broken down into the 15 organisation categories.

It is worth noting that most consultees did not respond to all questions as not all of them were relevant to them, therefore for each question there is a large proportion of no response/blank answers. This should be taken into consideration when looking at percentage agreement/disagreement as, excluding the blanks will make the yes/no proportions much stronger.

To analyse the comments made by respondents, all comments listed in the spreadsheet were read in detail and the issues that were raised the most were highlighted. The results of this process are given in each of the following sections.

Equal importance has been given to all responses, irrespective of their source.

The responses were very variable with some giving a straight yes or no answer, while others provided related comments but not necessarily answered the question. Where the comments were relevant and appeared in a number of responses, they were highlighted in the analysis. Some responses also provided suggestions on how the proposals should/could be changed. The majority of these details was felt to be outside this analysis and have not been analysed in this exercise, though these details may well be useful at a later date.

## Overall response

The numbers of respondents by type of organisation is given in the table below.

Code	Organisation Types	Responses	
		Number	Percentages
c01	Developer	11	5%
c02	Architect	5	2%
c03	Engineer	4	2%
c04	Building Control (Local Authority and private)	0	0%
c05	Local planning bodies (GLA, Local Authority)	73	33%
c06	NGO/Not for Profit Organisation/Campaigning Organisation/ Charitable Trust	23	11%
c07	Manufacturers/Utilities/Waste	6	3%
c08	Individual	20	9%
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	38	17%
c10	Financial Institution/Insurance	2	1%
c11	University and Research/BRE	5	2%
c12	Construction Contractors	0	0%
c13	Quasi Government (EST, CT, EP, etc.)/BBC	6	3%
c14	Registered Social Landlords RSLs/Housing Associations	7	3%
c15	Other	4	2%
c16	Surveyor	3	1%
c17	Regional Authority planning and associated partnerships	9	4%
c18	Political Parties (non Government)	2	1%
<b>Total responses =</b>		<b>218</b>	100%

As the table shows, the largest number of responses came from local authorities, followed by professional bodies and not for profit organisations.

There were no block responses, i.e. where several responses with identical wording were received. Only in one case two organisations had the same response to a number of questions.

Wherever there was a strong view within one group (majority of yes or no answers), this was highlighted in the analysis within each question.

# Question 1

## Question 1.A – Are we right about the need for new housing to lead the way in delivering low carbon and zero-carbon housing?

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	9	2	0
c02	Architect	3	1	1
c03	Engineer	3	1	0
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	57	7	9
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	19	2	2
c07	Manufacturers/Utilities/Waste	4	0	2
c08	Individual	7	2	11
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	17	11	10
c10	Financial Institution/Insurance	1	1	0
c11	University and Research/BRE	2	0	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	4	0	2
c14	Registered Social Landlords RSLs/Housing Associations	4	1	2
c15	Other	2	0	2
c16	Surveyor	2	0	1
c17	Regional Authority planning and associated partnerships	5	1	3
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>141</b>	<b>29</b>	<b>48</b>
	<b>Overall percentage</b>	<b>65%</b>	<b>13%</b>	<b>22%</b>

## 1. Statistical Review

A majority of respondents 65% supported the decision for new housing to lead Low or Zero Carbon (LZC) housing, although most respondents had reservations, see analysis below. Nearly 13% disagreed, most expressing the same reservations as those stated by the 65% agreeing. No specific trends were identified. Responses from key stakeholders were mostly supportive of the proposal.

## 2. Comments

In excess of 80 respondents (more than 35%), including key stakeholders, welcomed the proposals, while at the same time recognising that new housing was a sector easy to target for improvements through the existing planning system and Building Regulations. Furthermore they commented that the existing housing stock should not be overlooked and that too much emphasis was being put on new housing.

These respondents felt strongly that the existing housing stock represented a very significant or critical opportunity to achieve national carbon reduction targets and that this opportunity should be tackled in parallel with new housing. Most of these responses also suggested that:

- Technologies were available to improve existing housing.
- More funding schemes (e.g. for improved insulation) should be made available and other incentives should be developed (e.g. best practice guidance).
- Other mechanisms should be developed (e.g. Local Planning Authorities could require improvements when approving extensions or refurbishments).

About 50 respondents also commented that all sectors should be addressed, not only housing. A few responses suggested a similar approach to the Code should be considered for the non-domestic sectors, possibly based on BREEAM.

Note that three key stakeholders, the London Mayor's Office, the British Property Federation, and the House Builders Association, opposed the proposal because of its limited scope. No other key stakeholders expressed strong disagreement with the proposal.

Other recurring issues, raised by no more than 5 respondents included:

- Zero Carbon (ZC) would be difficult to achieve on many sites, including urban areas. Carbon offsetting should be accepted or required where ZC is not achieved or not achievable.
- The Government's energy policy should put more emphasis on delivering LZC electricity.
- Behavioural changes are required in the way homes and other buildings are used if national targets are to be achieved.
- Concerns that volumes of sales for new housing would not be sufficient to promote investment in research and development of new technologies.
- Local Planning Authorities should be able to require higher standards within the Code.
- The locations of new housing and existing transport infrastructures should be given due consideration to minimise transport emissions.
- Energy Performance Certificates were thought to be a useful tool providing a further incentive to improve the existing stock.

### Question 1B – [...] and is it achievable in the timescale we have set out?

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	5	1	5
c02	Architect	2	1	2
c03	Engineer	1	1	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	23	10	40
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	8	1	14
c07	Manufacturers/Utilities/Waste	1	0	5
c08	Individual	4	1	15
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	7	10	21
c10	Financial Institution/Insurance	0	1	1
c11	University and Research/BRE	1	2	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	0	2	4
c14	Registered Social Landlords RSLs/Housing Associations	0	1	6
c15	Other	1	0	3
c16	Surveyor	2	0	1
c17	Regional Authority planning and associated partnerships	4	0	5
c18	Political Parties (non Government)	0	1	1
	<b>All respondents</b>	<b>59</b>	<b>32</b>	<b>127</b>
	<b>Overall percentages</b>	<b>27%</b>	<b>15%</b>	<b>58%</b>

## 1. Statistical Review

27% of respondents supported the proposed timescale, a marked reduction from the 65% in support of the proposal laid out in Question 1.A. 15% felt it was not achievable, and a large proportion did not provide a clear “yes” or “no” answer.

A slight majority of Professional Bodies/Trade Organisations and Quasi Government organisations felt it was not achievable. No other significant trends were identified.

4 key stakeholders were in support, compared to 22 supporting the proposal in Question 1.A. 8 key stakeholders opposed the proposal laid out in Question 1.B and a large proportion expressed concerns, without providing a clear “yes” or “no” answer.

## 2. Comments

Following are the key recurring issues expressed by 5% to 10% of respondents, whether supportive of the timescales or not.

- The available options and technological solutions to achieve Zero Carbon (ZC) should be more fully developed before setting demanding targets and timescales, e.g. mandatory improvements of appliances and heating systems should be considered.
- It was questioned whether the skills and technologies for ZC housing were available or would be available in the near future to match the rate and scale of construction required by the ZC target. For instance, it was deemed that achieving large scale manufacturing of technologies contributing to ZC, at commercially viable or attractive prices, would take significant time.
- It was felt that while the timescales set for code level 3 and 4 were achievable, the code level 6 target of ZC was too stringent, unrealistic or unachievable.

In addition, about 3% of respondents pointed out that the proposed timescales would bring about significant issues for Local Authorities and Building Control with regards to ensuring that staff have the necessary knowledge and expertise. Additional guidance and training are essential to address this issue. Note that this concern was raised by Local Authorities as well as others sectors.

A related issue was the current low enforcement and compliance with Building Regulations, and concerns were expressed as to how the code would be implemented, enforced, monitored or reviewed.

The timescales proposed should be flexible and regularly reviewed. This would help align targets with progress made by the industry and what is practically feasible.

The following issues were expressed by no more than 5 respondents:

- The urgency to address new buildings now so that they don't become existing, energy inefficient buildings in the near future was recognised.
- Meeting the timescale for ZC would require a step change in the design, procurement and construction of housing. The required change would likely be hindered by the inherent inertia of the industry.
- Concerns were expressed as to whether the time required for the targets to filter down the planning process, for implementation at the local level, had been taken into consideration when setting the timescales. It was felt that this would create further delays.

## Conclusions

65% of respondents supported the need for new housing to lead the way in delivering Low carbon and Zero-Carbon (LZC) housing. The recurring concern was the apparent overlooking of existing housing and sectors other than housing. This prompted three key stakeholders to oppose the proposal for new housing to lead delivery of LZC.

Other concerns, deemed critical to delivering LZC housing, included: the opportunity to offset for sites where Zero Carbon (ZC) is not achievable, increasing the generation of LZC electricity at the national level, and the location of new housing and associated transport emissions.

With regard to timescales, 27% of responses supported the timescales, and 15% were in opposition. However, a large proportion of responses (58%) could not be classed as a “yes” or “no”. 4 key stakeholders were in support while 8 opposed the timescales.

Most respondents, including those supportive of the timescales, expressed reservations, mostly on the 2016 target (code level 6). The principal concerns were (a) whether the ZC technology was available at a viable price on the marketplace, and (b) whether the necessary increase in skills and resources, both in the industry and the implementation/enforcement sector, would match the rate and scale of construction required to meet the target.

It was suggested that the timescales should be flexible and reviewed regularly to match progress made by the industry and the implementation/enforcement sector.

Other concerns expressed included the likely delay for the requirements to filter through the planning system for implementation at the local level, and how the inherent inertia of the industry may best be overcome to achieve the targets.

*Note that Questions 1 and 8 overlap significantly, and analysis of both questions should be read in conjunction. A note on the overlap between these two questions is provided in the analysis of Question 8.*

## Question 2

### Question 2 – Have we got the assessment of costs and benefits right?

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	1	3	7
c02	Architect	1	1	3
c03	Engineer	1	1	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	15	7	51
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	2	5	16
c07	Manufacturers/Utilities/Waste	3	0	3
c08	Individual	2	2	16
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	7	9	22
c10	Financial Institution/Insurance	0	1	1
c11	University and Research/BRE	1	1	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	1	3	3
c15	Other	0	0	4
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	0	2	7
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>37</b>	<b>35</b>	<b>146</b>
	<b>Overall percentage</b>	<b>17%</b>	<b>16%</b>	<b>67%</b>

### 1. Statistical review

Nearly 70% of consultees did not answer either yes or no to the question because most respondents think that there is not sufficient information available at present to carry out a meaningful cost benefit analysis. Of those who responded either way, there were slightly more yes answers. Developers, NGOs/non profit organisations, RSLs/HA and Regional Authorities were the groups that gave a majority of negative responses.

## 2. Comments

The majority of respondents didn't answer either yes or no to the question, agreeing with what was stated in the document that estimating costs for the proposed measures was deemed very difficult. A number of respondents stated that costs are likely to be higher than estimated, although the increase in energy prices could make the costs come down. The WWF are not convinced that achieving low and zero carbon has to come at a far greater cost. A number of responses suggested that a government agency should be commissioned with the task to review the cost benefit analysis on a regular basis, to ensure that it is updated as more information on costs becomes available.

The main concerns that have been raised relating to the cost benefit analysis provided are as follows:

- A cost for achieving zero carbon hasn't been provided (13)
- There is concern that most of the cost of the improvement is going to be passed on to the home owner as not all of it can be reflected in the cost of land (which will also be affected by the Planning Gain Supplement) (10).
- The whole life cycle of buildings should be considered, not just the occupancy period. Hence embodied energy of materials and methods of construction should be assessed (9).
- The cost of large scale energy supply investment has not been included (5).
- A number of responses suggested that the environmental benefits should have been included in the analysis, maybe by setting a financial value on them (6).
- The costs will change depending on the size of the development. The analysis is skewed towards large dwellings and large developments. Costs will increase for small house builders (4).
- Cost of training the industry, communicating with the public and enforcing the new requirements should be included (6).
- A few responses suggest that the reliance on micro CHP is optimistic as this technology is yet to be proven in the field (2).
- Further responses mention the uncertainty with some renewable technologies as an issue. Potential failures of the technologies at the beginning of the learning curve should be included in the cost analysis. It is in fact possible that new technologies may not decrease in price as fast as suggested. The cost of maintenance of renewables has also been omitted (3).
- A couple of responses suggested that the cost of 'doing nothing' should also be taken into account to put things into perspective.
- Another comment that was made is that the figure for the social cost of carbon is an underestimate.

### **3. Conclusions**

The majority of respondents (67%) do not feel they have enough information to answer “yes” or “no” to this question.

Most of those who did respond (a) see it likely that the costs will be greater than predicted, although this is based on opinions rather than calculations; and (b) feel that there is currently insufficient information available to carry out a proper cost analysis, thus that a constant review of costs and technologies is required as practical experience increases.

## Question 3

### Question 3.A – Have we got the balance right between the contribution of the planning system and that of Building Regulations?

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	2	5	4
c02	Architect	2	2	1
c03	Engineer	2	0	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	32	16	25
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	6	8	9
c07	Manufacturers/Utilities/Waste	0	1	5
c08	Individual	2	5	13
c09	Professional Body/Trade Organisation/Local Planner/ Planning Consultant/Urban Designer	14	14	10
c10	Financial Institution/Insurance	0	1	1
c11	University and Research/BRE	2	1	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	1	4
c14	Registered Social Landlords RSLs/Housing Associations	1	3	3
c15	Other	2	0	2
c16	Surveyor	0	0	3
c17	Regional Authority and associated partnerships	3	3	3
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>71</b>	<b>60</b>	<b>87</b>
	<b>Overall percentage</b>	<b>33%</b>	<b>28%</b>	<b>40%</b>

### 1. Statistics

Whilst 33% of consultees thought that the balance was right, 28% thought it was wrong. Clearly a large number of respondents (40%) were uncertain.

Local authorities were the only major group of respondents which mostly felt that the balance was OK, with 44% saying yes against 21% saying no. Professional and trade groups and Regional Authorities were split 50/50 on the issue and most other groups who responded were more against than for.

## 2. Comments

Reasons for disagreeing were most commonly that Building Regulations were the best method of raising standards and should be strengthened. Local authorities saying “no” also felt that their powers to set their own energy standards were being curtailed, but equal numbers of developers felt that the document allowed local authorities too much discretion to set standards higher than Building Regulations. Some of those disagreeing felt simply that more clarification was needed including on integrating planning and Building Regulations. Others felt that the balance was wrong because Building Regulations compliance was poor and must be tightened to be an effective tool. At a more detailed level some respondents suggested that higher housing densities, dealing with transport and brownfield sites were more important.

Strengthening the role of Building Regulations was a suggestion raised by more than 20 consultees, whilst only a few respondents were against this approach. The issue of local authorities having power to set their own standards going beyond Building Regulations, was raised by more than 20 consultees but they were equally for and against this. This indicates that clarification on the issue of whether Building Regulations are seen as a maximum or minimum standard is needed, and at least 14 organisations called specifically for further clarification on the roles of Building Regulations and planning.

11 organisations called for more integration of Building Regulations and planning, particularly at the implementation end. A similar number complained that Building Regulations were not being enforced in practice, and this seems to be a major concern.

Several consultees raised the need for more technical education of planners so that they could set reasonable energy standards and assess proposal realistically. An alternative suggestion was for planners to have more access to technical support.

There were several comments about the Code for Sustainable Homes and that it should be included in Building Regulations or made mandatory.

A couple of consultees felt that there should be incentives (“carrots”) to build sustainable homes rather than just all the “sticks” included in the legislation.

**Question 3.B – Are there other policy instruments we should consider?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	5	0	6
c02	Architect	3	0	2
c03	Engineer	2	0	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	23	1	49
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	9	0	14
c07	Manufacturers/Utilities/Waste	4	0	2
c08	Individual	6	0	14
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	12	0	26
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	3	0	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	3	0	3
c14	Registered Social Landlords RSLs/Housing Associations	3	0	4
c15	Other	2	0	2
c16	Surveyor	2	0	1
c17	Regional Authority and associated partnerships	4	0	5
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>83</b>	<b>1</b>	<b>134</b>
	<b>Overall percentage</b>	<b>38%</b>	<b>&lt;1%</b>	<b>61%</b>

**1. Statistics**

83, or 38% of all consultees, suggested additional policy instruments, modifications to the current instruments, or new instruments. Although only one respondent replied that no other policy instruments were necessary, the bank and don't know answers suggest that overall 62% of respondents thought that there were no other policy instruments they could suggest.

## 2. Comments

A number of suggestions were made, although many did not address the question directly, as shown below.

Several different areas of policy that could be used were proposed:

- Financial incentives to support the main policies (15).
- The prohibition of incandescent light bulbs (3).
- Make the Code for Sustainable Homes mandatory (3).
- Support for the self build industry, which is low carbon (2).
- Introduce the “Carbon Milestone Roadmap, which predicts future carbon emissions from different fuel use (2).
- Legislate for use of low energy appliances (2).
- Use of transport and highways legislation (3).
- Other Regional Strategies in the areas of housing and economic development (1).
- A “National Spatial Strategy” to check on environmental limits for new areas of development (1).
- Integration with the forthcoming “Planning Gain Supplement” document (1).
- Working with park housing (which is not covered by Building Regulations) to raise energy standards (1).

Other suggestions were made by single respondents covering a range of possibilities, including: making south facing roofs mandatory; self certification on energy for all developments; post occupancy monitoring; disclosure of energy use; link with existing buildings and non-domestic new build; bans on patio heaters; discouragement of active; cooling and encouragement of passive measures; support and incentives for local authorities.

### Question 3.C – Are there ways in which we can design our policy instruments to achieve the same goals more cost-effectively?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	1	0	10
c02	Architect	1	0	4
c03	Engineer	0	0	4
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	6	0	67
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	0	0	23
c07	Manufacturers/Utilities/Waste	1	0	5
c08	Individual	2	0	18
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	5	0	33
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	1	0	4
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	1	0	6
c15	Other	0	0	4
c16	Surveyor	0	0	3
c17	Regional Authority and associated partnerships	1	0	8
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>22</b>	<b>0</b>	<b>196</b>
	<b>Overall percentage</b>	<b>10%</b>	<b>0%</b>	<b>90%</b>

## 1. Statistics

10% of respondents thought that there could be more cost effective methods of achieving the objectives and it can be assumed that the other 90% thought that there were no more cost effective ways.

## 2. Comments

Suggestions of more cost effective policies, or possibly additional policies, with similarities to the previous part of this question, included:

- Policies applied to the existing building stock (3).
- Financial policies (2).
- Policies applied to domestic appliances (2).

Several ideas were mentioned by one respondent only: focussing on central power generation; extending the GPDO to cover small wind; using the increasing house value to make housing more sustainable; focussing on insulation as a more cost effective solution than small scale renewables.

## Conclusions

A small majority of the consultees that responded to this question (33% against 28%) agreed that the balance between Building Regulations and planning is right. However there was a call for further guidance to ensure that the difference between the two is clear. There is also concern that better enforcement of the Building Regulations is required.

62% of respondents did not suggest any other policy instruments for consideration. Although 38% thought that additional policy instruments should be used, only financial policy incentives were frequently mentioned. Other suggestions were specifically mentioned by no more than 3 respondents and covered a range of subjects.

Most respondents (90%) could not come up with more cost-effective suggestions and those suggested cover the range of options discussed in the first parts of the question, with no particular focus.

The answers to this question should be read in conjunction with Question 5, where some additional suggestions are made.

## Question 4

### Question 4.A – Are there significant solutions to climate change that our policy framework does not encourage?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	6	0	5
c02	Architect	4	1	0
c03	Engineer	3	0	1
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	50	0	23
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	15	0	8
c07	Manufacturers/Utilities/Waste	5	0	1
c08	Individual	11	0	9
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	24	1	13
c10	Financial Institution/Insurance	2	0	0
c11	University and Research/BRE	3	0	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	5	0	2
c15	Other	3	0	1
c16	Surveyor	1	0	2
c17	Regional Authority planning and associated partnerships	5	0	4
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>141</b>	<b>2</b>	<b>75</b>
	<b>Overall percentage</b>	<b>65%</b>	<b>1%</b>	<b>34%</b>

## 1. Statistical review

Two thirds of consultees (66%) responded to this question, with practically everyone stating that there are significant solutions to climate change that this policy framework does not address. An overwhelming majority mentioned existing housing stock and other building types as issues that need addressing.

## 2. Comments

The vast majority (99%) of organisations that responded to this question believed that there are significant solutions to climate change that have not been addressed in this policy. Only a couple of responses were negative, stating that other issues relevant to climate change are not under the remit of the Communities and Local Government.

Out of the positive responses, the vast majority of consultees stated that existing housing stock and non-residential building types also need to be addressed with urgency. It was suggested that addressing existing housing stock could in fact have a greater impact than achieving the zero carbon target.

The main other issues that were highlighted by large numbers of consultees are as follows:

- Other sectors beyond buildings (water, waste, industry) need to be addressed. Particular mention was given to transport (18).
- The embodied energy of materials and the construction process should be considered (10).
- The impact of appliances should be considered in more detail. A considerable number of consultees suggested the banning or at least energy labelling of energy intensive appliances such as plasma TVs and patio heaters (8).
- Address consumer behaviour via fiscal incentives to encourage people to install energy efficiency and low energy technologies in their homes (24). A number of consultees also suggested the introduction of personal carbon quotas or residential developments joining a similar scheme as the EU ETS.
- More attention should be given to the energy mix. Incentives should be in place and planning should help the development of low carbon large energy generation such as wind farms (5).
- A re-thinking of the energy distribution network moving towards localised generation is also needed (3).
- A number of consultees highlighted that the calculations for the zero carbon target should take into account the fact that in the future the energy mix will change with the increase of green energy generation (4).
- It was also mentioned that LPG has a greater role to play in saving CO<sub>2</sub> in the short term than acknowledged by the policy framework (2).
- Attention should also be given to adaptation measures to the effect that climate change is having now, i.e. ensure that houses are resilient to the effects of climate change (4).
- Education of consumers but also skills development in the building industry should be addressed to enable the achievement of the targets (4).
- Cooling, passive solar design, thermal mass and other passive energy efficiency measures should have more importance. E.g. the implementation of PassivHaus standards. The effect of increase use of air conditioning should also be considered (10).
- The Renewable Energy Association also suggested that solar water heating should be made mandatory via Building Regulations.

**Question 4.B – Are there other things we should be doing to address this?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	3	0	8
c02	Architect	3	0	2
c03	Engineer	2	0	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	19	0	54
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	12	0	11
c07	Manufacturers/Utilities/Waste	3	0	3
c08	Individual	8	1	11
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	13	0	25
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	4	0	1
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	0	0	6
c14	Registered Social Landlords RSLs/Housing Associations	3	0	4
c15	Other	0	0	4
c16	Surveyor	1	0	2
c17	Regional Authority planning and associated partnerships	4	0	5
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>78</b>	<b>1</b>	<b>139</b>
	<b>Overall percentage</b>	<b>36%</b>	<b>0%</b>	<b>64%</b>

**1. Statistical review**

64% of consultees did not respond to this question as a considerable number of them had already provided comments and suggestions in the first part of the question. Of those who responded, practically everybody answered yes and reiterated the point that existing buildings and other types beyond residential should be addressed.

**2. Comments**

The responses to this question were mainly very similar to the responses to question 4.A. Other issues that emerged beyond those already listed under 4.A or that have been further highlighted are listed below:

- Address existing stock (3).

- Fiscal incentives for home owners e.g. VAT rebates for energy efficiency measures, stamp duty exemptions, enhanced capital allowances etc (8).
- Fiscal incentives for developers (1).
- Incentives for decentralised electricity generation (in particular from community owned and large scale renewables) (5).
- Stronger inclusion of SUDS and rainwater harvesting (2).
- Incentives to minimise commuting distances and other measures to address transport emissions (4).
- Focus more on energy efficiency, e.g. ban energy intensive appliances e.g. incandescent light bulbs, stand-by modes, and white goods below B rating (6).
- Personal carbon trading (2).
- More guidance on carbon offsetting (1).
- Use biofuels to replace solid fossil fuels heating system in existing domestic stock (2).
- Ensure enforcement of new energy efficiency standards is carried out thoroughly (2).
- Allow for flexibility to ensure that developments in new technologies can be included. Vetting of new technologies is needed to avoid problems with their introduction to the market (2).
- Wider socio-economic benefits from sustainable development to be included (2).

## Conclusions

65% of respondents agreed that there are significant solutions to climate change that the policy framework does not encourage. The remainder of responses could not be classed as either in agreement or opposition.

The overwhelming issue put forward by the consultees is that the policy framework only looks at new dwellings, which are only a small contributor to CO<sub>2</sub> emissions compared to existing residential stock and other building types. It was deemed that addressing energy efficiency in these overlooked building sectors is likely to have a much larger impact on CO<sub>2</sub> emissions than aiming for zero carbon new homes.

Items that were raised as actions that should be taken to help tackle climate change included the need for fiscal incentives to get home owners to buy into energy efficiency and the need to address the impact of the transport sector.

## Question 5

### Question 5.A – Are we right in our assessment of what we should seek to achieve through the planning system and through Building Regulations?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	3	3	5
c02	Architect	1	1	3
c03	Engineer	2	1	1
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	26	10	37
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	6	3	14
c07	Manufacturers/Utilities/Waste	1	1	4
c08	Individual	3	2	15
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	5	9	24
c10	Financial Institution/Insurance	0	1	1
c11	University and Research/BRE	1	1	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	0	1	5
c14	Registered Social Landlords RSLs/Housing Associations	3	1	3
c15	Other	0	1	3
c16	Surveyor	1	1	1
c17	Regional Authority and associated partnerships	4	1	4
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>58</b>	<b>37</b>	<b>123</b>
	<b>Overall percentage</b>	<b>27%</b>	<b>17%</b>	<b>56%</b>

### 1. Statistics

27% of respondents thought that the assessment was right whilst 17% disagreed. At least 23 respondents stated that their response was the same as to Question 3, so this answer needs to be read in conjunction with Q3.

The local authorities were 36% in agreement and 13% disagreeing, and overall the NGOs similarly in favour, whilst professional bodies were only 11% in agreement and 25% disagreeing. Other larger group of respondents, developers, were evenly divided for and against.

## 2. Comments

The reasons given for considering that the proposals are incorrect and any suggestions for alternative routes were as in Q3. In addition, the following issues were raised:

- more or less power being given to local authorities (9 more, 7 less).
- greater importance should be given to beefing up Building Regulations (6).
- the use of financial incentives (4).
- including transport issues (4).
- focussing on appliance energy use (4).
- a view that the current tools were simply not adequate to satisfy future emissions targets (4).

### Question 5.B – Are there other policy instruments we should consider?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	3	1	7
c02	Architect	2	1	2
c03	Engineer	2	0	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	31	0	42
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	8	0	15
c07	Manufacturers/Utilities/Waste	2	0	4
c08	Individual	8	0	12
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	12	1	25
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	4	0	1
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	0	5
c14	Registered Social Landlords RSLs/Housing Associations	3	0	4
c15	Other	2	0	2
c16	Surveyor	1	0	2
c17	Regional Authority and associated partnerships	3	0	6
c18	Political Parties (non Government)	2	0	0
	<b>All respondents</b>	<b>84</b>	<b>3</b>	<b>131</b>
	<b>Overall percentage</b>	<b>39%</b>	<b>1%</b>	<b>60%</b>

## 1. Statistics

84 respondents, 39% of the total and practically all those who responded either yes or not to this question suggested other policy instruments which could be used. Almost all groups offered some suggestions.

## 2. Comments

A number of suggestions were given, these should be read in conjunction with Question 3 (b), to which some respondents referred. The following list of suggestions includes those from part (a) of this question, the figures in brackets indicating the number of respondents.

- Fiscal incentives were most commonly mentioned (29).
- Action required for existing houses (8).
- Including more education and information on zero carbon buildings and equipment (8).
- More consideration of transport (6).
- Making the Code for Sustainable Homes mandatory by inclusion in Building Regulations (6).
- Legislation on domestic appliances, including banning some items such as incandescent light bulbs and patio heaters (5).
- A clear system for payment for electricity exported by local generation (4).
- Action on the non-domestic sector (4).
- Action on electricity generators (3).
- Linking with the Planning Gain supplement (2).

Other suggestions made by individual respondents include:

- Making more use of public procurement.
- Use of smart metering.
- Use of open space and woodland for carbon capture.
- Reducing restrictions on conservation areas and listed buildings to enable energy measures.
- Including “deemed to satisfy” energy components in planning documents.
- Use of, and integration with, Regional planning policies including IRFs.
- Support for the self build sector.
- Putting a minimum renewable requirement in Building Regulations, e.g. 10%.

## Conclusions

27% supported the assessment while 17% disagreed. A large number of comments referred back to the issues raised under Question 3 and these are not repeated here.

As in Question 3, 60% of respondents did not suggest any other policy instruments for consideration. The remainder of responses mentioned several issues, at times slightly different from those given in the answer to Question 3. The use of fiscal incentives was the key recurring issue raised by those who responded.

## Question 6

### Question 6.A – Are there areas of duplicative – or even conflicting – regulation in the framework that we have described?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	6	0	5
c02	Architect	0	2	3
c03	Engineer	2	1	1
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	25	13	35
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	9	1	13
c07	Manufacturers/Utilities/Waste	1	0	5
c08	Individual	5	0	15
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	12	4	22
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	1	1	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	2	1	4
c15	Other	0	1	3
c16	Surveyor	1	0	2
c17	Regional Authority planning and associated partnerships	3	2	4
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>71</b>	<b>26</b>	<b>121</b>
	<b>Overall percentage</b>	<b>33%</b>	<b>12%</b>	<b>56%</b>

### 1. Statistical review

45% of consultees responded to this question and over 70% of responses were positive mainly stating overlap and duplication between local planning policies and national policies (i.e. Building Regulations and/or the Code) as an issue. In particular developers and NGOs provided quite a strong positive response to this question, listing their concerns on potential conflicts, while the few architects that responded mainly disagreed.

## 2. Comments

A large majority of the consultees that responded to this question agree that there is some duplication and possibly some conflict in the proposals. Furthermore a few respondents consider that there is some duplication between Building Regulations and the Code for Sustainable Homes.

There are diverging opinions in particular with regards to the role that local planning policies should take in relation to national standards. Most respondents who thought there was conflict think that Local Authorities (LAs) should not set different standards from those required at national level to avoid confusion, increased costs due to duplication and delays in meeting the targets. A number of respondents however think that LAs should be allowed to set higher standards as they have a better understanding of the local needs. This would also ensure a more gradual adaptation of the industry to the higher standards as developers and contractors will have to deliver higher standards in some schemes before they are enforced nationally.

Another issue that has been raised by around 10% of positive responses is the conflict between the zero carbon target and the target to deliver 200,000 new homes per year. It is envisaged that in order for the industry to adjust to the higher building standards (i.e. skills and technologies development) there will be a slow down in delivering new homes.

Other issues that have been raised include the following:

- Addressing climate change is the most important issue so the Code should be implemented across all building types with the same high standards required nationally for private and public ownership. A number of respondents however suggested that the Code addresses a lot of other issues that go beyond saving carbon and that, given the urgency of the problem, efforts should be further focussed on carbon savings (for example by addressing existing homes).
- There is concern that all these new standards will be in conflict with other planning requirements on location, design and aesthetics. E.g. developers will find it easier to develop greenfield rather than brownfield sites; developments could end up being located away from good transport connections therefore losing any CO<sub>2</sub> savings by causing additional transport emissions; new energy efficient designs could have short lifetimes therefore causing higher frequency of demolition and re-build.

Other more specific examples of conflicts include:

- Policy should focus on carbon emissions and not energy.
- Using low VAT rates for new building but not for energy efficient refurbishments.
- Air tightness in relation to air quality.
- Consumer choices relating to building services don't move as quickly as policies (e.g. cavity insulation, condensing boilers).
- CHP is often not encouraged by LAs in contrast with plans set out in national strategy.

- A national strategy needs to have some flexibility to account for special sites such as National Parks.
- The British Property Federation suggested that where the energy performance of an existing property cannot be improved sufficiently by renovations, planning should look positively to demolition.

### Question 6.B – Do these threaten to get in the way of meeting the goals we have set?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	1	0	10
c02	Architect	0	0	5
c03	Engineer	0	0	4
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	5	0	68
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	3	0	20
c07	Manufacturers/Utilities/Waste	0	0	6
c08	Individual	2	0	18
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	0	0	38
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	0	0	5
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	0	5
c14	Registered Social Landlords RSLs/Housing Associations	1	0	6
c15	Other	0	0	4
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	0	0	9
c18	Political Parties (non Government)	0	0	2
	<b>All respondents</b>	<b>13</b>	<b>0</b>	<b>205</b>
	<b>Overall percentage</b>	<b>6%</b>	<b>0%</b>	<b>94%</b>

## 1. Statistical review

Only 6% of consultees responded to the second part of question 6 and all of them answered positively stating that the duplication in the policy framework will cause delays.

## 2. Comments

The issues that were further highlighted in this section of the question include the following:

- Delays in planning negotiations due to duplication between CSH levels and local policies setting renewable energy percentage
- Building Regulations should be used to ensure the timescale is met as planning is unreliable
- Building Regulations should set the emissions standards, as the CSH covers a lot of other less important issues, it should be kept voluntary

## Conclusions

The majority of respondents (33% against 12%) think that there is duplication between the planning system, the Building Regulations and the Code for Sustainable Homes and that a more streamlined approach, or very careful distinction, is required to avoid confusion and conflict that would cause delays in the delivery of new homes. The key recurring concern raised by respondents was that Local Authorities should not set local planning policies on issues covered by the Code for Sustainable Homes (CSH) and the Building Regulations.

6% of consultees responded to the second part of the question. All responses suggested that the duplication and conflicts in the policy framework will cause delay in the delivery of the targets.

## Question 7

**Question 7 – Do you agree that all new homes should receive a rating against the standards set out in the Code for Sustainable Homes from April 2008?**

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	5	5	1
c02	Architect	3	0	2
c03	Engineer	3	0	1
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	57	0	16
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	16	1	6
c07	Manufacturers/Utilities/Waste	2	1	3
c08	Individual	8	2	10
c09	Professional Body/Trade Organisation/Local Planner/ Planning Consultant/Urban Designer	22	6	10
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	2	0	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	3	0	3
c14	Registered Social Landlords RSLs/Housing Associations	2	3	2
c15	Other	2	0	2
c16	Surveyor	2	0	1
c17	Regional Authority planning and associated partnerships	4	0	5
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>133</b>	<b>18</b>	<b>67</b>
	<b>Overall percentage</b>	<b>61%</b>	<b>8%</b>	<b>31%</b>

### 1. Statistical review

Around 70% of the consultees responded to question 7, with the vast majority (61%) supporting the proposal that all new homes should receive a rating against the Code for Sustainable Homes (CSH). 8% of consultees did not support the proposal mainly because of obstacles to its practical implementation. No group disagreed strongly.

## 2. Comments

The vast majority of consultees that responded to this question agree that all new homes should receive a rating against the CSH. Around 10% of these positive responses also suggested that the CSH should be applied to existing buildings and even non-residential developments.

An issue that emerged from the consultation is that some clarification is needed on whether making the Code mandatory means that it will be possible to achieve a Code level 0, or if it will mean that the minimum requirement will be a Code level 1. A considerable number of the positive responses suggested that the minimum requirement should be for a Code level 1.

One of the main reasons given to justify negative response was the predicted lack of qualified assessors to carry out the certifications, if the Code were to become mandatory in 2008.

Another issue that has been mentioned in a number of responses is the potential conflict with the imminent implementation of the Energy Performance Certificates (EPC). There are concerns that implementing the CSH so soon after the EPC will cause confusion in the industry and that the monitoring process could overlap.

A suggestion was made to avoid running energy performance certificates (EPC) in parallel with the Code to minimise costs, i.e. EPC could be used until 2010 and then the Code would substitute the EPC with a minimum level 3 requirement.

Other comments that have emerged include the following:

- The Post Construction Review is of vital importance to ensure that new methods of constructions and technologies are used appropriately, therefore avoiding initial bad experiences that could harm future implementation and public acceptance.
- More cost/benefit analysis and consultation is needed before implementation.
- Communication is required with home buyers to ensure that they are aware of the new schemes and know what to ask for. Some concern was raised about the clarity to the user of the Code's level 1 to 6 system.
- Assessors need to be quality assured however there is also a call for cheap and easily accessible tools to allow more people to become assessors quickly.
- The schedule for the Code partly duplicates that of Building Regulations.
- A couple of responses suggested that additional minimum requirements should be set for other sections of the Code, beyond energy and water (e.g. pollution).
- There was a call for non-domestic and existing buildings to be assessed under a similar scheme.

### 3. Conclusions

61% of respondents agreed that all new homes should receive a rating against the standards set out in the Code for Sustainable Homes (CSH) from April 2008. No group strongly disagreed. A considerable number also suggested that the requirement should go beyond new build houses and should include existing stock and extend to the non-residential sector.

8% of responses did not support the proposal set out in Question 7. The main concerns raised relate to the predicted lack of assessors to carry out the large number of assessments that would be required. Furthermore there is concern that the CSH is partly overlapping with the imminent energy performance certificates, and that the introduction of the Code will cause confusion in the industry, as well as for the home buyer.

*Note: The question was interpreted by consultees in a number of ways. Whilst some consultees interpreted it as intended – i.e. that a rating against the Code would be mandatory (and this could include a level 0 e.g. compliance with Building Regulations); other respondents thought it meant that a full assessment against the Code would be mandatory – i.e. that new homes would have to achieve a rating of 1 to 6. However it is clear that the vast majority of respondents were supportive of making a rating against the Code mandatory. Communities and Local Government will clarify these issues when they consult specifically on making the Code rating mandatory later this year.*

## Question 8

**Question 8 – Do you believe that our timetable for delivering zero carbon development through more stringent Building Regulations is sensible and achievable, too stringent, or not stringent enough?**

Code	Organisation type	Achievable	Not achievable	Not stringent enough	Blank answers
c01	Developer	1	6	1	3
c02	Architect	4	0	0	1
c03	Engineer	3	0	0	1
c04	Building Control (Local Authority and private)	0	0	0	0
c05	Local planning bodies (GLA, Local Authority)	33	5	13	22
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	10	4	2	7
c07	Manufacturers/Utilities/Waste	3	0	1	2
c08	Individual	4	1	5	10
c09	Professional Body/Trade Organisation/Local Planner/ Planning Consultant	15	7	7	9
c10	Financial Institution/Insurance	0	1	0	1
c11	University and Research/BRE	2	0	1	2
c12	Construction Contractors	0	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	1	0	4
c14	Registered Social Landlords RSLs/Housing Associations	1	2	2	2
c15	Other	1	1	0	2
c16	Surveyor	2	0	0	1
c17	Regional Authority/ planning and associated partnerships	4	0	3	2
c18	Political Parties (non Government)	1	0	1	0
	<b>All respondents</b>	<b>85</b>	<b>28</b>	<b>36</b>	<b>69</b>
	<b>Overall percentage</b>	<b>39%</b>	<b>13%</b>	<b>16%</b>	<b>32%</b>

### 1. Statistical Review

More than 55% of respondents believed that the timescales proposed were achievable, of which 16% felt they are not stringent enough. About 13% believed they are not achievable, including 6 key stakeholders.

Half of the developers who responded felt the timescales were not achievable; while more than 17% of responding local planning bodies deemed the timescales not stringent enough. No other significant trends were identified.

Question 8 and 1.B overlap significantly. 32% did not answer Question 8, a marked increase from about 9% not answering Question 1.B. However, Question 8 shows a 55% support, while Question 1.B shows only 27% of respondents supporting the timescales with a large proportion not providing a clear “yes” or “no” answer.

Note that 12 key stakeholders felt that the timetable was achievable and 6 felt that it wasn't. This is in line with the overall trends of responses.

## 2. Comments

Following is an analysis of the recurring rationales provided in support of the three possible answers to Question 8 i.e. whether the proposed timescales are “achievable”, “too stringent”, or “not stringent enough”.

### Timescales are “achievable”

Overall, most respondents believed that the Code level 3 and 4 targets were achievable. Therefore, only those believing that the Code level 6 target was achievable were accounted for in this category.

Of those respondents believing the timescales were achievable:

- 10% felt the difficulty of the targets reflected the urgency of the issues at stake and therefore welcomed them.
- 6% believed that the definition of the Zero Carbon (ZC) would be critical to achieving the targets, mainly whether enough flexibility would be built-in the ZC definition, for instance to allow off-site renewable electricity generation. This issue was also raised by some key stakeholders in opposition of the proposed timescales.

Other key recurring responses (making up less than 5% of “achievable” responses) included:

- The technology necessary to achieve the targets exists.
- The targets are achievable if training across the industry (architects, engineers, planners, building controls, etc.) is adequately resourced.

### Timescales are “too stringent”

The key recurring rationales, provided by 40% to 60% of those believing the timescales were “too stringent”, were:

- The need for further development of many technologies, including micro CHP (Combined Heat and Power), district heating, etc. It was believed that there would not be sufficient time to try and test the technologies before implementation and that the potential three changes to the Building Regulations, to achieve Code level 6 in 2016, would not provide a stable environment for investment.

- The need for a coherent training and advice programme across all sectors to improve construction standards and educate home owners. Many doubted that the skills would be available to match the construction rate targets for new homes.
- The lack of time available for the housing sector to improve from Code level 4 (44% in 2013) to Code level 6 (Zero Carbon in 2016). This is linked to the largest other recurring comment suggesting the timescales should be flexible.

### **Timescales are “not stringent enough”**

The following issues were raised in no more than 5 instances by those believing that the timescales were not stringent enough:

- A number of Low and Zero Carbon (LZC) technologies are available and used by the more proactive developers.
- The timescales do not reflect the urgency to address the wider issues at stake e.g. stabilisation targets of carbon dioxide equivalent emissions.
- Code level 3 is achievable today and should be mandatory. Waiting until 2010 will only further delay benefits.
- The scope of the Code should be widened to all sectors and include existing stock (see Question 1 responses).

Other recurring comments raised by all respondents regardless of their support or opposition to the timescales include:

- The need for the timescales to be flexible. It was proposed that the timescales should be reviewed regularly in the light of progress made by the different sectors required to support Code level 6.
- The capacity of the industry to respond at the pace and scale required would likely be a limiting factor.
- The need for energy efficiency and energy generation to be addressed separately.
- The need for a robust compliance and monitoring system to ensure new homes meet the low and zero carbon requirements.
- The need to review the Standard Assessment Procedure.

## **3. Conclusions**

Responses show an overall support of the proposed timescales (39%), an additional 16% believing that the timescales were not stringent enough. This is a marked increase from 27% support of Question 1.B which might be explained by the large number of unclear responses to that question. 13% of total responses and half of the developers who responded, believed the timescales were not achievable.

Note that generally concerns and reservations were directed to the Code level 6 target, not to the other targets.

The main concern of those supporting the targets was whether the definition of Zero Carbon would include sufficient flexibility to account for off-site generation, thus allowing the targets to be met.

Those not in support of the timescales suggested that the following were required (a) further technological developments, (b) training and education across sectors, and (c) more time to achieve Code level 6. Note that these issues were also expressed by respondents supporting the timescales.

The need for flexibility of the timescales, informed by regular cross-sector reviews, was also a recurring concern expressed by all responding groups.

### **Note on Questions 1 and 8:**

*Responses to Q8 show an overall support of the proposed timescales (39%), an additional 16% believing that the timescales were not stringent enough. This is a marked increase from 27% supporting the timescales in the second part of Q1 (Q1B). This might be explained by (a) the large number of unclear responses to Q1B, and (b) that it was possibly considered of less significance as Q1B is a secondary question to Q1A.*

*13% of total responses to Q8 and half of the developers who responded, believed the timescales were not achievable. In response to Q1B, 8 key stakeholders opposed the timescales.*

*Note that generally respondents to both questions (Q1B and Q8) expressed concerns and reservations on the Code level 6 target (i.e. Zero Carbon), not on the other targets.*

*The principal concerns for respondents to Q1B were (a) whether the ZC technology was available at a viable price on the marketplace, and (b) whether the necessary increase in skills and resources, both in the industry and the implementation/enforcement sector, would match the rate and scale of construction required to meet the target. These issues were also raised by a significant number of respondents to Q8 whether in opposition or supporting the targets.*

*The main concern of those Q8 respondents supporting the targets was whether the definition of Zero Carbon would include sufficient flexibility to account for off-site generation, thus allowing the targets to be met.*

*A recurring concern expressed by respondents to both Q1B and Q8 (irrespective of whether they supported or opposed the targets and timescales) suggested that the timescales should be flexible and reviewed regularly to match progress made by the industry and the implementation/enforcement sector.*

*Other concerns expressed by respondents to Q1B included the likely delay for the requirements to filter through the planning system for implementation at the local level, and how the inherent inertia of the industry may best be overcome to achieve the targets.*

## Question 9

### Question 9.A – Do you think our assessment of the costs of achieving these targets is realistic?

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	2	4	5
c02	Architect	1	1	3
c03	Engineer	1	0	3
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	10	3	60
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	3	3	17
c07	Manufacturers/Utilities/Waste	1	0	5
c08	Individual	2	2	16
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	2	12	24
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	1	0	4
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	1	2	4
c15	Other	0	1	3
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	2	0	7
c18	Political Parties (non Government)	0	0	2
	<b>All respondents</b>	<b>28</b>	<b>28</b>	<b>162</b>
	<b>Overall percentage</b>	<b>13%</b>	<b>13%</b>	<b>74%</b>

### 1. Statistical review

74% of consultees did not respond either yes or no to the question, stating that there is currently insufficient information available and/or that they are not in a position to assess whether the cost analysis is correct. Of those who did respond there was a 50 – 50 split between those who thought that the costs appear to be in the right range and those who thought they were wrong. The negative respondents suggested that the costs are likely to be higher than predicted. Developers, professional bodies and RSLs/HA gave more negative than positive responses.

There is some overlap between this question and question 2, this is probably also part of the reason why a large number of consultees did not respond to this question, having already stated their opinion under question 2.

## 2. Comments

The majority of respondents didn't answer either yes or no to the question, agreeing with what is stated in the document, i.e. that estimating costs for the proposed measures is very difficult to do. A number of respondents stated that costs are likely to be higher than estimated, although this is based on personal perception rather than actual figures and calculations.

A number of concerns were raised with regards to the cost estimates, these are mainly the same as those already listed under question 2. The main points that have been highlighted again under this question are:

- A cost for achieving zero carbon hasn't been provided.
- There is concern that most of the cost of the improvement is going to be passed on to the home owner.
- The whole life cycle of buildings should be considered, not just the occupancy period. Hence embodied energy of materials and methods of construction should be assessed.
- Cost of training the industry, communicating with the public and enforcing the new requirements should be included.
- The cost of maintenance and management of new technologies has not been accounted for.
- The social cost of carbon should be included in the analysis.
- Furthermore the Renewable Energy Association stated that there is no reason why a set percentage of any given development should not be forced to comply with Code level 6 or higher renewables standards than those requested by the Code.

**Question 9.B – Can you offer additional supporting evidence on costs?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	5	1	5
c02	Architect	1	0	4
c03	Engineer	1	0	3
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	2	7	64
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	2	0	21
c07	Manufacturers/Utilities/Waste	0	0	6
c08	Individual	1	0	19
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	2	0	36
c10	Financial Institution/Insurance	0	0	2
c11	University and Research/BRE	0	0	5
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	0	0	6
c14	Registered Social Landlords RSLs/Housing Associations	1	1	5
c15	Other	0	0	4
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	0	0	9
c18	Political Parties (non Government)	0	0	2
	<b>All respondents</b>	<b>15</b>	<b>9</b>	<b>194</b>
	<b>Overall percentage</b>	<b>7%</b>	<b>4%</b>	<b>89%</b>

**1. Statistical review**

90% of respondents did not have any particular evidence to provide relating to costs therefore answered no or didn't answer the question. Local authorities in particular felt they had no supporting evidence on costs. The majority of those who did respond said yes and either provided some figures or some suggestions of further items that should have been included in the analysis.

**2. Comments**

The majority of respondents didn't answer either yes or no to the question, agreeing with what stated in the document that estimating costs for the proposed measures is very difficult to do. Those who responded positively provided the following comments and suggestions:

- The cost of achieving a CSH level 6 (zero carbon) could be between 5% and 7.5% of build cost by 2020 but between 5% and 17% of build cost at 2006 technology prices (AEA Energy & Environment)
- Cost to achieve an EcoHomes Excellent (roughly equivalent to CSH level 4) compared to an EcoHomes Very Good is estimated at around £3,000/unit (William Davis Ltd)
- The cost to achieve CSH level 6 will vary significantly depending on size of development, from £5,000/unit for a large scale development to £30,000 for an individual house (Ove Arup & Partners)
- The UK Green Building Council provided the following information on costs:
  - The Cyril Sweet report for English Partnerships and the Housing Corporation entitled ‘A Cost Review of the Code for Sustainable Homes’ gives the following cost increases for achieving carbon emissions reductions from a baseline of 2006 Part L regulations: 1.4-5.2% for Code 3; 1.4-17.2% for Code 4; and 16.4-37.8% for Code 5
  - A report commissioned by South West Regional Assembly, South West Regional Development Agency and Government Office for the South West entitled Supporting and Delivering Zero Carbon Development in the South West’ concluded that cost increases for Code 5 and Code 6 carbon emissions reductions would vary significantly depending on the scale and type of development. For market town and urban extension a 3-12% increase in base build cost for Code 5, and 8-17% increase for Code 6. For city infill 9-36% for Code 5 and around 32% for Code 6. However, they expect that these costs will halve by 2020.
- The costs are likely to be higher due to the shortfall in trained professionals and renewable energy technologies. If the supply can’t meet the demand costs will not come down in the 10 year run to zero carbon
- A suggestion was made to add the costs of the ‘do nothing’ option to put things into perspective

The Scottish Youth Hostel Association will monitor behaviour change and costs in a low carbon development co-funded by EST, Housing Corporation and Regional Housing Board. They will be happy to share the results to help reviewing the current cost analysis.

## Conclusions

The majority of respondents (74%) do not feel they have enough information to answer “yes” or “no” to this question. Out of those who did provide a response, the majority feel that there is currently insufficient information available to carry out a proper cost analysis and that a constant review is required as practical experience increases.

Only a couple of consultees were able to provide additional information with some estimates of what reaching zero carbon is likely to cost.

## Question 10

Question 10.A – We believe that a zero carbon target is the most robust framework for reducing the carbon footprint of new development. Do you agree that our definition of zero carbon in paragraph 2.33 is the right approach?

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	4	4	3
c02	Architect	3	0	2
c03	Engineer	2	0	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	26	10	37
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	9	2	12
c07	Manufacturers/Utilities/Waste	3	1	2
c08	Individual	5	2	13
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	5	18	15
c10	Financial Institution/Insurance	0	1	1
c11	University and Research/BRE	0	1	4
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	2	2
c14	Registered Social Landlords RSLs/Housing Associations	2	2	3
c15	Other	1	1	2
c16	Surveyor	2	0	1
c17	Regional Authority planning and associated partnerships	3	1	5
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>68</b>	<b>45</b>	<b>105</b>
	<b>Overall percentage</b>	<b>31%</b>	<b>21%</b>	<b>48%</b>

### 1. Statistical Review

31% of consultees were supportive of the proposed approach (i.e. “yes” answer) and 21% were in opposition (i.e. “no” answer), with the remaining 48% providing comments that couldn't be classified either as yes or no or not responding.

This shows significant interest from respondents and that opinions are divided thus potentially weakening support for the proposal laid out in Question 10.A.

Professional organisations and trade bodies appear to strongly disagree with the proposal, with 44% of this group opposing the proposal. No other significant trend was identified.

## 2. Comments

Following is an analysis of the key recurring issues provided by respondents to the proposal laid out in Question 10.A. Note that:

- (a) Some issues were raised by both responding groups i.e. those supportive as well as those opposing the proposed definition;
- (b) In a number of instances supporting responses expressed concerns; and
- (c) Most respondents, regardless of their opinion, felt that further guidance was required.

The key recurring concerns expressed by respondents who were overall in support of the proposed definition are as follows:

- 4 respondents supporting the proposal suggested that occupant behaviour should be considered. This issue was also raised by 4 respondents not expressing a strong opinion in favour or against the proposal. These latter respondents felt that zero carbon calculations were academic, as they were highly dependent on occupancy patterns and occupants behaviour.
- The need for fiscal and educational measures – supported by key stakeholder RICS.
- The need to consider the inefficiencies of main power generation and distribution.
- The need to include all other energy consuming components served from homes e.g. external lights.

Within the negative responses, the majority of concerns was directed at the scope of the definition and what it omits. This was raised by 26 respondents, most of which disagreed with the proposed definition – these concerns were also raised by a few respondents who supported the definition but felt it could be improved. The comments provided were:

- Carbon neutrality should be assessed over the building's design lifetime;
- The definition should also take into account:
  - Transport emissions,
  - Carbon emissions related to the embodied energy of construction materials,
  - The use of recycled construction materials, and
  - Water consumption, including the impact of waste water treatment.

11 respondents felt the definition lacks clarity, with most concerns directed at what “low carbon”, “zero carbon”, and “carbon neutrality” actually meant.

Following are other issues raised by respondents disagreeing with the proposed definition. These issues were raised in no more than two occasions:

- Concerns were expressed as to the practical implications of implementing the definition, and whether a degree of certainty would be provided to the industry.
- Low and Zero Carbon technologies (e.g. micro-generation) should be developed and promoted to reduce cost and increase accessibility.
- Buildings with a 20 to 30 years design life time are not sustainable in the long term.
- The definition should include the ecological footprint – supported by key stakeholder CABE.

The inclusion or exclusion of electrical goods in the definition was raised by both supporting and opposing respondents. The comments provided were:

- The zero carbon definition should exclude electrical appliances as house builders have no control over the purchase of electrical goods – raised by 4 respondents in opposition.
- Electrical goods should all be labelled adequately – raised by 1 respondent in support.
- A legal ceiling of electrical appliances' energy demand should be considered – raised by 1 respondent in support.
- Inefficient electrical products should be banned – raised by 1 respondent with no opinion.
- Both supporting and opposing respondents (in roughly equal numbers) suggested that the proposed definition should first require developments to be built to high environmental standards (with high energy efficiency) and only then address carbon neutrality.
- One respondent suggested that the standard should be based on what can be designed into the building or development, which could lead to net generation of electricity.

**Question 10.B – Where there are circumstances in which the additionality of offsetting measures outside the development can be demonstrated and are more cost-effective (e.g. on small infill developments), is there a case for carbon neutrality (i.e. taking account of offsetting measures)?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	9	1	1
c02	Architect	2	0	3
c03	Engineer	3	0	1
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	24	15	34
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	8	2	13
c07	Manufacturers/Utilities/Waste	3	0	3
c08	Individual	6	0	14
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	16	3	19
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	2	1	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	3	0	3
c14	Registered Social Landlords RSLs/Housing Associations	1	2	4
c15	Other	0	1	3
c16	Surveyor	1	0	2
c17	Regional Authority planning and associated partnerships	3	0	6
c18	Political Parties (non Government)	0	0	2
	<b>All respondents</b>	<b>82</b>	<b>25</b>	<b>111</b>
	<b>Overall percentage</b>	<b>38%</b>	<b>11%</b>	<b>51%</b>

## 1. Statistical Review

38% were supportive of the proposed approach (i.e. “yes” answers), and 11% were in opposition (i.e. “no” answers), showing a more strongly marked support with the proposal laid out in Question 10.B compared to Question 10.A.

No significant trend was identified.

## 2. Comments

It is worth noting that few issues were raised by both responding groups, which may mark a clearer divide, than in Question 10.A between those supportive and those opposing the proposal; however most of the concerns were raised by respondents expressing support of the proposal.

Almost a quarter of supportive respondents suggested that the criteria for eligibility should be clear, strict and robust. Few even suggested that these criteria should be defined through consultation with the industry. Included in this group were also 3.5% who suggested that clear guidance was required on acceptable methods of offsetting, calculations processes, implementation and enforcement. These concerns were also expressed by 12% of opposing respondents, arguing that a robust scheme was required, but that it was very difficult to achieve.

Nearly 20% of supportive respondents commented that offsetting should only be considered after a development has incorporated all practical Low and Zero Carbon (LZC) options, i.e. offsetting residual carbon only. Two respondents even suggested that homes should be built to the German PassivHaus standard. A similar, albeit stronger opinion was expressed by nearly 25% of respondents generally opposing the proposal, suggesting that offsetting should only be allowed in exceptional circumstances.

A similar concern, expressed by nearly 16% of supportive respondents, was that offsetting should not be a “way out” for developers. Some respondents suggested that the onus should be on developers to demonstrate that offsetting is the only remaining practical option. This issue was also the chief concern of opposing respondents.

More than 13% of supportive respondents, including five key stakeholders (EST, SDC, BEAMA, CABE, and the UK GBC) suggested that offsetting should include the implementation of energy efficiency measures in existing buildings.

8.5% of supportive respondents also suggested that offsetting should be limited to a geographical area. Some suggested offsetting should be limited to the UK, others felt it should be limited to the region of the development.

The following issues were raised on no more than 3 occasions by supportive respondents:

- Offset should be genuine e.g. through retiring ROCs.
- Off-site generation should be hard-wired to the development to create a sense of ownership and prevent occupiers to change to other utilities providers.
- Offsetting should only be transitional, until zero carbon is achieved in 2016.
- Tree planting should not be allowed because of the potential reversibility (i.e. carbon being re-released to the atmosphere).
- Concerns were expressed as to how enforcement would be implemented, and if implemented through Building Controls or Planning, whether officers have adequate skills.

In addition to (a) the use of offsetting as a last option, and (b) the necessity for a robust scheme, already mentioned above by supportive respondents, the key recurring concern raised by 28% of opposing respondents was that offsetting was a soft route to compliance, offering a “get out”/“do nothing” option to a conservative industry.

Other issues raised by no more than 2 opposing respondents included:

- ROCs retirement should not be used, as it is likely to increase the profitability of existing schemes rather than increasing the supply of renewables.
- Cost-effectiveness should not be allowed as grounds to support offsetting.
- Allowing offsetting would create confusion for buyers, who thought that they were getting a genuine zero carbon home.

A key recurring issue, raised by 7 respondents was that it is the Government's responsibility to alter the carbon profile of mains electricity supply. Another concern was the remaining barriers to distributed electricity generation and how surplus electricity would be distributed outside the unit or development.

## Conclusions

There was a significant interest in the definition of zero carbon, with only 6% not providing a response.

Nearly half the professional bodies and trade organisations who responded opposed the proposal.

Both supporting and opposing respondents commented that further guidance was required. This translated into criticism from opposing respondents, with a large proportion commenting that the definition lacked clarity e.g. overlooking the need for high environmental construction to be required before addressing carbon neutrality (raised in 25 instances).

The issue recurring with the highest frequency was the scope of the definition. Respondents suggested transport, the embodied energy of construction materials and water consumption should also be addressed by a zero carbon building or development.

The inclusion or exclusion of electrical goods was also contentious, although a small majority favoured their exclusion, as house builders have no control over these. Proposals for further Government action were made e.g. labelling or banning of electrical appliances.

Occupant behaviour was also a key recurring concern, with respondents equally divided between its inclusion in the definition and the acknowledgement that zero carbon would be too dependent on occupants' behaviour.

There was a strong interest in the proposal laid out in the second part of Question 10. 38% agreed that offsetting may be allowed, although a number of concerns were raised.

The main recurring comment from those supporting offsetting, including five key respondents, was that offsetting should be linked to implementing energy efficiency measures in existing housing. Other key concerns raised by supportive respondents were:

- The criteria for eligibility under the scheme should be clear, robust and strict.
- Offsetting should be the last resort. Developments should be of high environmental standard and only residual carbon should be offset.
- Offsetting should be limited to a geographical area – national or regional.

The risk of providing an easy “way out” for developers was a critical concern expressed by both supportive and opposing respondents.

Finally, the responsibility of the Government to alter the carbon profile of mains electricity generation was also raised by a number of respondents.

## Question 11

**Question 11 – Does the framework that we describe give adequate room to authorities and developers to make best use of the opportunities available at different spatial levels, for example district heating and district cooling?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	3	2	6
c02	Architect	1	0	4
c03	Engineer	1	1	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	24	10	39
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	3	5	15
c07	Manufacturers/Utilities/Waste	1	3	2
c08	Individual	4	1	15
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	5	9	24
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	2	0	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	1	4
c14	Registered Social Landlords RSLs/Housing Associations	2	2	3
c15	Other	1	0	3
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	2	3	4
c18	Political Parties (non Government)	0	1	1
	<b>All respondents</b>	<b>51</b>	<b>38</b>	<b>129</b>
	<b>Overall percentage</b>	<b>23%</b>	<b>17%</b>	<b>59%</b>

### 1. Statistical review

Just less than half the consultees (40%) responded to this question, with roughly a 60 – 40 split between positive and negative responses. A number of respondents provided comments without actually answering yes or no to the question; these are counted as ‘no answer’ however their comments were taken into account in the analysis. The positive responses suggest that there is sufficient flexibility to allow the development of opportunities on a wider spatial level. The negative responses give conflicting reasoning with some consultees suggesting that LAs should have more freedom to impose certain standards while other consultees feel that LAs should not be in a position to set requirements.

NGOs, manufacturers and professional bodies had quite a strong negative response.

## 2. Comments

40% of respondents answered either yes or no to this question, with a considerable number providing some comments but not feeling in a suitable position to agree or disagree.

The majority of those who responded thought that the system is flexible enough to allow the introduction of solutions on a wider scale such as district heating systems. Of those who responded negatively (17% of the total), the majority thought that more flexibility is needed and that local authorities (and regional development agencies) should be allowed more power at a local/regional level. A considerable number of responses suggested that LAs should be allowed to set requirements for district systems and be in a position to enforce the introduction of such systems.

A small number of respondents suggested that LAs should not be the ones setting requirements stating the lack of necessary technical knowledge as the major obstacle. This issue emerged in a large number of responses both positive and negative. The majority of consultees feel that more guidance is required for LAs to allow the correct introduction of wider spatial solutions. It is also thought that the cost to train decision makers on these new technologies should be taken into account.

Other major issues that have been raised are listed below:

- The fact that the policy is specific to individual developments was raised as an issue. The scope should be widened to neighbourhoods if district heating and/or cooling are to be considered seriously. One step needed to address this issue is to provide guidance on existing buildings as well as new build, and considering different building types as district systems work best with a mixture of building uses (7).
- Another important issue relating to the scope of the policy framework is how the carbon savings are being calculated, i.e. the definition of where the low/zero carbon energy can be sourced (e.g. onsite/local/offsite) (see Q10b for further details). If a district system is used, there may be a need to offset savings between neighbouring development that will be connected but may be built at different times and with different phasing (4).
- Financial incentives are needed to get developers to seriously consider district systems as an option. These systems have high initial capital costs and considerable management issues and their use has no apparent benefit to the developer (12).
- Utility companies should be involved in the process as developers will not wish to become the service providers. Utilities need incentives or obligations set by LAs to ensure that they facilitate the development of district heating and power systems and take on the role of energy services companies where necessary (9).
- There needs to be sufficient flexibility in place to allow the best solution to be selected, as this will vary from site to site (13).
- Being over prescriptive on zero carbon homes and renewables implementation can hinder the progress of CHP and district heating systems. The policies should make it very clear that energy efficiency and reduction of demand should precede microgeneration (2).

- CHP has not been given a fair deal in the policy framework: unlike renewables, the national CHP target has not been referenced and reflected in the policy; the policy needs to be clear that low and zero carbon energy includes both electricity and heat; there are much cheaper options than hydrogen fuelled CHP to be considered (3).
- A call for technology trials and case studies to help developers and LAs get to grips with these new systems (12).

### **3. Conclusions**

The majority of respondents (23% against 17%) thought that the policy framework has sufficient flexibility to allow the introduction of the best solutions at different spatial levels. However, there is concern that more guidance is needed for Local Authorities to fulfil this role.

A key recurring issue raised by consultees was that the scope of the policy needs to be widened to a neighbourhood level and to include existing stock and other building types. The issues of phasing of developments, and potential off-setting of carbon dioxide (CO<sub>2</sub>) savings from neighbouring sites need to be addressed.

## Question 12

**Question 12 – Do you agree that, for the reasons set out, there should be a national strategy for regulating the emissions for buildings supported by local promotion of renewable and low carbon energy supply?**

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	5	3	3
c02	Architect	4	0	1
c03	Engineer	3	1	0
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	40	6	26
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	13	1	9
c07	Manufacturers/Utilities/Waste	2	0	4
c08	Individual	5	3	11
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	18	4	18
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	3	0	2
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	1	4
c14	Registered Social Landlords RSLs/Housing Associations	4	1	2
c15	Other	2	0	2
c16	Surveyor	2	0	1
c17	Regional Authority planning and associated partnerships	4	0	5
c18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>108</b>	<b>20</b>	<b>90</b>
	<b>Overall percentage</b>	<b>50%</b>	<b>9%</b>	<b>41%</b>

### 1. Statistical review

Around 60% of the consulted responded to this question with the vast majority agreeing with the use of a national strategy to regulate building emissions supported by local promotion of renewable and low carbon energy supply. Of those who disagreed, nearly all suggested that renewable and low carbon energy supply should also be supported at a national level. A considerable number of the positive responses pointed out that local policies should only be used if they set higher standards than those set at national level. No particular group disagreed strongly.

## 2. Comments

Over 80% of the consultees that responded to this question agree that a national approach to address emissions in buildings is required. Most of these also agree that this national strategy should be supported by the local promotion of renewable and low carbon energy supply, however a considerable number point out that local requirements should only be in place if they set higher standards than national policies. Three consultees however think that LAs should not be allowed to set higher standards than those set out at national level.

A number of consultees also pointed out that, to avoid confusion, local requirements should only be set in terms of achieving higher Code levels and that other tools (such as independent renewables targets) should not be used.

A number of consultees pointed out that the strategy should be extended at a national level to all building types and existing stock. While another suggestion was that national policies should apply to new build (as set out by the proposed policy framework) and that LAs should focus on helping existing building stock to improve its energy performance.

The major issue that was raised by the negative responses is that although local energy supply has a role to play in saving CO<sub>2</sub> emissions, the majority of the energy demand will still have to be met by large scale generation. Therefore there is a call for a national strategy to ensure that the potential for large scale renewable and low carbon energy sources is exploited. One consultee went further in suggesting that world wide energy trading will have to become part of the strategy, as tapping renewable energy sources where they are most abundant (e.g. geothermal in Iceland, solar in deserts) will be a much more effective way of meeting CO<sub>2</sub> emissions targets.

Further from the above, a number of consultees said that local promotion of renewables and low carbon energy technologies could cause the development of small independent markets meaning that the advantages of economies of scale would be lost. It was also mentioned that local generation isn't always the most effective solution and that the option of investing in an off-site large scale renewable energy scheme should be open to developers.

Other issues that were raised by the consultees are listed below:

- More (national) guidance on delivery mechanisms and training are needed for local authorities to promote local low and zero carbon energy supply effectively. LAs will need an energy officer with sufficient technical knowledge to make informed decisions
- Monitoring and reviews of developments will be needed to ensure that requirements are being met in practice
- The focus on energy efficiency should be a priority over renewable and low carbon energy supply
- The buildings should be designed to ensure that they are suitable for predicted effects of climate change
- All buildings and not just new residential buildings should be covered

- National regulation is needed for new and currently unproven energy technology to avoid ‘cowboy’ operators and misleading promotion
- Flexibility is needed to allow LAs to operate in the most efficient way, often making use of existing local networks to encourage low and zero carbon technology implementation
- A couple of consultees suggested that a regional strategy is required to allow for strategic design and make the most of opportunities on a neighbourhood level (e.g. district heating systems)
- One response suggested that the new PPS is not going far enough to help LAs implement CHP. They need to be able to require a new development to join a district system
- The embodied energy of materials should be made part of Building Regulations
- Some concern was raised that without local standards development will become cloned across the country
- The House Builders Association agree in a national framework and strongly disagree in small local energy supplies claiming that this will put the security of supply of home buyers at grave risk because of lack of technical competence and appropriate investment.

### **3. Conclusions**

The majority of respondents (50% in support against 9% in opposition) agree that there should be a national strategy for regulating emissions from buildings supported by local promotion of renewable and low carbon energy supply. However it was pointed out that large scale renewable and low carbon energy production has a big role to play in reducing CO<sub>2</sub> emissions and therefore should be promoted at national level.

Furthermore there was concern that setting different standards at a local level could cause confusion and therefore it was recommended that the local targets should be set using the Code for Sustainable Homes. Respondents suggested local targets should only be set if higher (more demanding) than national ones.

## Question 13

**Question 13 – Are we right to assume that our twin goals – of delivering the new homes that are needed and reducing emissions from the housing stock – will be achieved more effectively by relying on national standards (i.e. Building Regulations and the Code) than through encouraging earlier action by individual local authorities?**

Code	Organisation type	Agree	Disagree	Don't know or blank
c01	Developer	6	1	4
c02	Architect	3	1	1
c03	Engineer	1	1	2
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	29	16	28
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	8	2	13
c07	Manufacturers/Utilities/Waste	1	1	4
c08	Individual	6	0	14
c09	Professional Body/Trade Organisation/Local Planner/ Planning Consultant	14	8	16
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	2	0	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	1	2	3
C14	Registered Social Landlords RSLs/Housing Associations	4	2	1
C15	Other	1	0	3
C16	Surveyor	1	1	1
C17	Regional Authority/ planning and associated partnerships	3	2	4
C18	Political Parties (non Government)	1	0	1
	<b>All respondents</b>	<b>82</b>	<b>37</b>	<b>99</b>
	<b>Overall percentage</b>	<b>38%</b>	<b>17%</b>	<b>45%</b>

### 1. Statistical Review

38% of respondents supported the proposal laid out in Question 13 and 17% were not in agreement. The remaining 45% mostly did not respond to the question, or provided comments that were not directly answering the question.

No significant trends were identified, and responses from key stakeholders were found to be in line with the bulk of responses (see spreadsheet for key stakeholders listing).

While the above appears to show a generally good support of the proposal laid out in Question 13, it must be noted that:

- In many instances supporting responses included caveats
- Most opposing responses recognised the need for national standards.

## 2. Comments

Following is an analysis of the recurring rationales provided by respondents, it is worth noting that a number of issues were raised in both positive and negative responses.

The following points were raised by positive respondents:

- Almost 22% of respondents supporting the proposal argued that national standards are necessary to provide a level playing field for all. For example, a national standard would help alleviate some Local Authorities' fears to set standards above the national minimum and to drive investors to other Local Authorities with less stringent requirements.
- A number of these respondents also felt that national standards would be a quicker route to achieving the goals set out in Question 13 and would provide certainty and stability to the industry, thus creating an environment better suited to attract investment.
- 12% of respondents supporting the proposal argued that local initiatives would create confusion, fragmentation and imbalance which national standards would avoid. In addition, 2 respondents commented that confusion already existed and that the issue now facing the Government was how to "reset a common benchmark".
- 1 respondent suggested that not adopting national standards would distort the development market and would potentially lead to lengthy planning appeals.

The following issues were raised by no more than 3 respondents supporting the proposal:

- Nothing is being done for the existing stock.
- Engaging householders is also vital.
- National standards are suitable for small schemes, but for major schemes higher standards should be required not merely encouraged (as is currently the case with PPS1).
- It is impractical for Local Authorities to require higher standards under a Development Plan Document (DPD) because it takes at least 3.5 years to produce a DPD.
- Local Authorities do not have the skills and resources [to set suitable standards].
- National Standards should be ambitious so that there is no reason for Local Authorities to set their own standard.

The main issues raised by the negative respondents were as follows:

- 20% of respondents who answered Question 13, including 5 respondents who were generally supportive of the proposal, argued that early action by Local Authority should be encouraged as (a) it provides valuable experience, (b) it drives innovation, and (c) it informs future standards.
- 20 respondents argued that Local Authorities should have the flexibility to apply more stringent standards and that doing so would (a) speed up the roll out of Low and Zero Carbon (LZC) buildings, and (b) allow better response to local circumstances. A number of these respondents also suggested that Communities and Local Government should provide guidance for Local Planning Authorities to raise local standards.

In addition, the following issues were raised by no more than 2 respondents, all opposing the proposal set out in Question 13:

- Standards could be set at the regional level to create a regional level playing field, thus reducing inconsistencies between Local Authorities.
- Local Authorities should have more powers [to enforce standards] as enforcement of Building Regulations Part L 2002 and 2006 has been poor.
- Local Authorities have an important role in reducing emissions from existing stock and incorporating improvements in extensions.

A considerable number of respondents were neither in support nor opposing the proposal arguing that a combination of both approaches should be adopted to either (a) set minimum national standards and let proactive Local Authorities continue to lead, or (b) use national standards and local standards to address separate issues.

### 3. Conclusions

Just under half (45%) of the organisations that responded to the consultation did not provide an answer to Question 13.

38% of respondents, i.e. 82 respondents, were on the whole supportive of the proposal, although in many instances they attached caveats to their responses. The key rationales in support of the proposal were that national standards would provide (a) a level playing field for all, and (b) a degree of certainty which would favour investment, in contrast to the confusion that, it is deemed, would result from allowing local standards. The caveats expressed by respondents supporting the proposal are in line with the issues raised by respondents opposing the proposal.

A significant portion of respondents who, on the whole, opposed the proposal recognised the need for national standards. 20% of responses argued that early action from Local Authorities should be encouraged as it provides experience, drives innovation and can be used to inform future standards. Nearly 10% of respondents felt that giving Local Authorities the flexibility to apply higher standards would speed up the roll out of LZC buildings and help address local circumstances.

Further, 11% of responses suggested that an approach combining both national and local standards would be best suited.

## Question 14

**Question 14 – Given the proposed PPS on climate change will apply in England but not in Wales, are there any specific implications in Wales for the future direction of Building Regulations implied by this consultation?**

Code	Organisation type	Yes	No	Don't know or blank
c01	Developer	1	0	10
c02	Architect	1	0	4
c03	Engineer	0	0	4
c04	Building Control (Local Authority and private)	0	0	0
c05	Local planning bodies (GLA, Local Authority)	3	0	70
c06	NGO/Not for Profit Organisation/Campaigning Organisation/Charitable Trust	5	1	17
c07	Manufacturers/Utilities/Waste	0	0	6
c08	Individual	0	2	18
c09	Professional Body/Trade Organisation/Local Planner/Planning Consultant/Urban Designer	3	2	33
c10	Financial Institution/Insurance	1	0	1
c11	University and Research/BRE	2	0	3
c12	Construction Contractors	0	0	0
c13	Quasi Government (EST, CT, EP, etc.)/BBC	2	0	4
c14	Registered Social Landlords RSLs/Housing Associations	2	0	5
c15	Other	0	0	4
c16	Surveyor	0	0	3
c17	Regional Authority planning and associated partnerships	0	0	9
c18	Political Parties (non Government)	0	0	2
	<b>All respondents</b>	<b>20</b>	<b>5</b>	<b>193</b>
	<b>Overall percentage</b>	<b>9%</b>	<b>2%</b>	<b>89%</b>

### 1. Statistical review

10% of consultees responded either yes or no to this question, with a large number feeling that they were not in a position to respond, e.g. because they do not have sufficient knowledge of or involvement with the Welsh planning system.

Of those who did respond, the majority thought that there would be some implications in Wales for the future direction of Building Regulations following the implementation of the PPS in England. However the overwhelming comment that emerged from the consultation is that, given the global nature of the problem at hand, emissions savings targets should be set at the national level. Respondents felt that addressing these global issues at the national level would also reduce confusion and help achieve the targets.

## 2. Comments

The two key issues raised by the consultees, whether they responded positively or merely commented on the question, were (a) that there should be a national strategy to tackle climate change and (b) that given the global nature of the issues, comparison and learning from other EU countries should be sought. This was deemed of vital importance to ensure that the best strategy is chosen and the industry reacts in the quickest and most efficient way allowing the targets to be met.

Those who responded positively to this question raised the following concerns:

- The pattern of housing and income is different in Wales therefore economic planning might assume greater importance than in England.
- Discrepancies in planning (TAN vs. PPS) could encourage the devolution of the Building Regulations process which would cause confusion and delay for developers that work across borders.
- The same approach is needed across borders to avoid ending in a position where neighbourhood and community opportunities, such as district heating systems, are not exploited because of conflicting policies.
- European requirements will mean that Welsh policies will be similar, although there may be the opportunity to account for climate variations.
- Developers and their supply chain are not restricted by national boundaries. Therefore changes in the market in England are likely to affect the Welsh market.

A couple of responses suggested that Wales should set its own targets with an appropriate timescale. One respondent pointed out that Wales has now set its own targets for reaching carbon neutrality at 2011, and further commented that there is no reason why England should not match it.

## 3. Conclusions

Most consultees (90%) did not feel in a position to comment on the issues raised by Question 14. Therefore the rate of response was very low at 10%.

Of those 10% that responded, most respondents thought that there would be some implications for Wales from the implementation of the PPS in England. The majority of respondents thought that a national strategy, covering both England and Wales, was needed to ensure a clear message was sent out to the public and the building industry.

Furthermore, the national strategy (a) should be aligned with EU policies, and (b) should be developed through learning from other EU countries' experiences where possible.

## Miscellaneous issues raised

Responses that did not specifically answer the questions laid out in the consultation were classed as miscellaneous. These responses were classed in two types: those raising technical issues, which should be given consideration in the analysis of responses, and those of a non-technical nature.

### Technical Issues

- Mike Hillard, who built his own low carbon house called Tranquillity, noted a reference in the consultation to the German PassivHaus design standard and commented that a Tranquillity house would generate only between 8% and 31% of the carbon produced by a PassivHaus house. He also commented that the cost of coping with climate will be exponential and that the Stern report did not seem to attach any value to human life.
- Sponge queried (a) whether non-compliance would be penalised, and (b) whether carbon reduction appraisal would be integrated in existing mandatory assessments such as NHBC.
- Some specific industries (e.g. the British Swimming Pool Federation) feel that the proposals hinder their industry and that they should be given the opportunity to discuss the issues that affect them.
- The South West Regional Assembly (SWRA) called for the technical guidance to the Code to be “widely consulted upon” and commented that training provisions should be made for all those affected by the Code.

Identical responses were received from 7 individuals. The responses argue that the Code is inadequate because:

- The Code’s minimum standard is no higher than the latest Building Regulations, although higher standards are technically possible.
- The scope of the Code has been reduced from all buildings to only new homes.
- The Code remains voluntary for all private sector housing.

The London Borough of Richmond upon Thames commented that (a) a number of Local Authorities have been prevented by Planning Inspectors from specifying higher energy efficiency standards, and (b) the new draft PPS further limits Councils’ powers to require higher energy efficiency. The Borough’s response to the PPS consultation is included (see reference p111). The Borough also expressed support of the Martin Caton MP Energy Efficiency Bill.

Most of the issues raised above have been raised by others. Those issues that have not been raised under questions 1 to 14 are not deemed to be of great significance to the analysis of the consultation.

## **Non-technical Issues**

- Middlesbrough Council and Forum for the Future inviting Communities and Local Government to speak at a conference (held 6th March 2007) to help Local Authorities develop and deliver local climate change action plans.
- Two respondents, The London Forum of Amenity and Civic Societies and Cambridge Architectural Research, queried whether late submissions would be considered. It appears that no further correspondence was received from these organisations.

# Conclusions

## Summary and conclusions across all question

As shown by the analysis of the individual question given above, there is considerable overlap between the responses to a number of questions, highlighting a number of issues that appear to be of concern to most respondents.

In particular question 2 and 9 are very similar and often consultees responded to question 2 and then referred to that answer in response to question 9. The same has occurred with Question 3 and Question 5 therefore the responses to these couples of questions should be read in conjunction.

A majority of responses supported the timescales proposed, although strong concerns were directed at the 2016 Code level 6 (zero carbon) target. It was suggested that the timescales should be flexible and reviewed regularly to match progress made by the industry and the implementation/enforcement sector.

A significant issue that emerged throughout the responses of all questions is that the policy framework only addresses new housing and that, although this is a good starting point, far greater CO<sub>2</sub> savings could be achieved by widening the scope to include existing residential buildings as well as different building types.

Questions 4 and 10 raised a number of other issues respondents deemed should be included in the framework. In particular, it was suggested that transport, embodied energy of materials and water consumption should be included in the definition of zero carbon development. It was also mentioned in a number of responses that large scale energy generation, change in the energy mix, changes in the distribution network should be addressed, as major savings could be achieved by promoting large scale low and zero carbon energy generation. A recurring issue was the need to focus more on energy efficiency by tackling appliances, even though this is an area that house builders rarely can influence.

Questions 2 and 9 showed that there is currently insufficient information available to establish whether the cost benefit analysis carried out is reasonable.

Uncertainty was also the reason why a lot of consultees did not feel in a position to assess whether the timescales set by the consultation documents were reasonable or not. Most consultees responding to Question 8 thought that the timescales for the initial targets were achievable, although this is pending suitable development in new low and zero carbon technologies, and the delivery of sufficient training throughout the building industry.

The analysis showed that further guidance is required to clarify the difference between the remit of Building Regulations, the planning system, and the Code for Sustainable Homes. Most respondents agree that there is a role to be played by each of these. However there was concern that duplication, due to a lack of guidance, could slow down the delivery process.

There was general disagreement on whether Local Authorities should be empowered to enforce different standards from those set nationally (see Questions 5, 11 and 13). The main views on both sides were (a) that there is a need for Local Authorities to set higher standards, in order to drive the market and the development of technologies, and provide flexibility to account for local differences; and (b) that introducing different local standards will cause confusion and delays in achieving the targets.

The analysis suggests that this problem should be solved by providing sufficient guidance to Local Authorities, ensuring that planning officers are appropriately trained, or can access technical expertise – to ensure their local standards and policies are coherent and work with the national strategy, rather than against it.

Most respondents agreed that new homes should receive a rating against the Code from April 2008. However, there was some confusion as to whether a minimum level of the Code would be required. There was also considerable concern that there might be insufficient trained Code assessors to meet the demand if the Code becomes mandatory in April 2008.

## Summary of further recurring and significant themes

Listed below are a number of further issues that were raised throughout the consultation as items needing attention or concerns relating the implementation of the proposed policy strategy.

- Fiscal incentives to home buyers and developers are needed (i.e. “carrots” as well as “sticks”).
- Behavioural changes are required in the way homes and other buildings are used if national targets are to be achieved.
- Carbon offsetting should be accepted or required where ZC is not achieved or not achievable.
- There is concern that most of the cost of the improvement is going to be passed on to the home owner as not all of it can be reflected in the cost of land.
- The uncertainty with some renewable technologies is an issue. Potential failures of the technologies at the beginning of the learning curve should be included in the cost analysis. The cost of maintenance of renewables has also been omitted.
- The enforcement of Building Regulations, Code for Sustainable Homes and other requirements should be improved as is currently not effective.
- The impact of appliances should be considered in more detail. A considerable number of consultees suggested the banning or at least energy labelling of energy intensive appliances such as plasma TVs and patio heaters.
- Attention should also be given to adaptation measures to the effect that climate change is having now, i.e. ensure that houses are resilient to the effects of climate change.

- Cooling, passive solar design, thermal mass and other passive energy efficiency measures should have more importance. The effect of increase use of air conditioning should also be considered.
- Incentives to minimise commuting distances and other measures to address transport emissions.
- Personal carbon trading should be used.
- The need for the timescales to be flexible. It was proposed that the timescales should be reviewed regularly in the light of progress made by the different sectors required to support Code level 6.
- The capacity of the industry to respond at the pace and scale required would likely be a limiting factor.
- A cost for achieving zero carbon hasn't been provided.
- The whole life cycle of buildings should be considered, not just the occupancy period. Hence embodied energy of materials and methods of construction should be assessed.
- The fact that the policy is specific to individual developments was raised as an issue. The scope should be widened to neighbourhoods if district heating and/or cooling are to be considered seriously.
- The same approach is needed across borders (England, Wales, Scotland) to avoid that neighbourhood and community opportunities such as district heating systems are not exploited because of conflicting policy.