



Department for
Communities and
Local Government

Next steps to zero carbon homes – Allowable Solutions

Government response and summary of responses to the
consultation

July 2014

Department for Communities and Local Government

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Government response

Introduction

1. As part of the journey to zero carbon homes the Coalition Government has significantly strengthened the energy performance requirements in the Building Regulations for new homes. New homes are now required to be on average over 30% more energy efficient than before we came into office and these changes mean that consumers can save an extra £200 on average a year on their fuel bills. These changes mean that new homes in this country are already amongst the most energy efficient anywhere, but we are not stopping there and we will be implementing zero carbon homes from 2016. However, we recognise that it is not always technically feasible or cost effective to meet the zero carbon homes standard purely through measures on site.
2. So while we intend to set a more stretching minimum on-site energy performance standard for new homes from 2016, we will also put in place a cost effective and flexible mechanism to allow house builders to meet the remainder of the zero carbon target by supporting off-site carbon abatement measures termed ‘allowable solutions’. The consultation *Next steps to zero carbon homes – allowable solutions*¹ set out proposals and sought views on key design principles, options and processes for an allowable solutions framework.
3. This report provides the summary of responses to the consultation on *Next steps to zero carbon homes – allowable solutions* on and is structured around seven chapters which reflect those set out in the consultation document. Each chapter includes summary qualitative analysis of the views and comments submitted for each consultation question in that chapter as well as tables showing how the different organisation types responded to the question. We have carefully considered the responses to the consultation set out in this report and will take the steps outlined below to take forward the policy. This includes bringing forward legislation, as announced in the Queen’s Speech, to enable the framework for allowable solutions.

¹ The consultation on *Next steps to zero carbon homes – allowable solutions* can be found at <https://www.gov.uk/government/consultations/next-steps-to-zero-carbon-homes-allowable-solutions>

On site energy performance requirement for new homes from 2016

4. We intend to set an on-site energy performance requirement at a level equivalent to level 4 energy standards of the Code for Sustainable Homes (the 'Code'). This represents an improvement on current Building Regulations' requirements of approximately 20% across the new homes build mix. This is a challenging standard for new homes without forcing excessive cost and unrealistic levels of ambition onto house builders.
5. Industry is already taking steps to tackle that challenge through the AIMC4² project which has brought together a consortium of major house builders with the support of the Technology Strategy Board with the aim of pioneering the volume production of homes built to the level 4 energy standards of the Code. But there is still more to do and industry learning and supply chains will need to improve as currently only around 10% of new homes are built to this standard.
6. Our zero carbon homes strategy does not just stop at strengthening the Building Regulations, we want to ensure that homes are performing as we would expect. To this end we are supporting a wide piece of work with industry, being led by the Zero Carbon Hub³, to ensure that all new homes when built are actually saving the amount of energy and carbon that should be expected. The Zero Carbon Hub led work looks at closing the gap between design and as-built performance of new homes and we will consider how best to take forward its recommendations.

Exemptions

7. We recognise that meeting the zero carbon homes standard represents a bigger challenge to small house builders than for larger house builders and we also need to ensure that small house builders do not face unreasonable extra costs. That is why we have announced an exemption for small sites. We intend to seek views on how an exemption could best work, ensuring it is targeted effectively and is proportionate.

² Details of the AIMC4 project can be found at: <http://www.aimc4.com/>

³ Details of the work of the Zero Carbon Hub on closing the gap between design and as-built performance can be found at: <http://www.zerocarbonhub.org/>

Design principles and delivery model for allowable solutions

8. We intend to adhere to the design principles for allowable solutions as proposed in Chapter 2 of the consultation (paragraph 2.4). This included that house builders should be able to decide how they meet the short fall between the minimum on-site energy standard and the zero carbon requirement, and that the framework to achieve this should provide choice and flexibility. To this end the delivery model for allowable solutions will include the 4 routes proposed in the consultation. These routes are not mutually exclusive. It may be that a house builder might want to mix and match, depending on their circumstances:
 - i. the house builder could do more or all carbon abatement on site or through connected measures (e.g. a heat network)
 - ii. the house builder could meet the remaining carbon abatement requirements themselves through their own off-site carbon abatement action (e.g. retrofitting existing buildings)
 - iii. the house builder could contract with a third party to deliver the carbon abatement measures sufficient to meet the house builder's zero carbon obligation.
 - iv. the house builder could make a payment into a fund which then invests in carbon abatement projects sufficient to meet the house builder's zero carbon obligation.
9. We have concluded that there should be verification and certification arrangements established for each of these delivery options. There was support for both ex-ante and ex-post verification and we will work with industry and local authorities to develop an appropriate arrangements for the verification and certification of allowable solutions.
10. Other key principles for allowable solutions are that the carbon saving should be both cost effective and additional, and we will strive to ensure that the administrative overheads are minimised whilst maintaining a robust verification and certification system.

National Framework for Allowable Solutions

11. We will set out a national design framework for allowable solutions, for which there was strong support in the consultation, rather than require local authorities to set up their own local arrangements. This approach will provide for greater efficiency in delivery and total coverage of the country, better ensure consistency, and maximise the opportunities to use allowable solutions to support strategic carbon abatement schemes. The legislation we are bringing forward will provide powers to enable the framework for allowable solutions to be established through the Building Regulations. We want to give local authorities the ability to participate in allowable solutions but within the national framework, working with house builders to bring forward projects to be supported through route iii or by the fund (route iv). The

legislation we are bringing forward will allow for this but ultimately it will be the house builders choice as to which route he chooses and there will be a price cap established for any fund.

12. We want to provide flexibility in defining allowable solutions measures to allow for innovation and new measures to be brought forward. We will consider further a criteria based approach to identifying appropriate allowable solutions measures as opposed to a statutory list which might be set out in secondary legislation. In regard to what allowable solutions measures may be suitable we will not restrict these to carbon abatement measures in the non traded sector of the economy, and carbon abatement measures that include work to both residential and non-domestic buildings will be acceptable. We do not want to rule out or rule in specific allowable solutions measures at this point but they would need to be capable of delivering verifiable carbon savings at a cost effective price. Neither do we want to tie allowable solutions measures to specific locations.

Price cap

13. We agree with the majority of consultation responses that there should be a ceiling price for allowable solutions and we therefore intend will set a ceiling price or 'price cap' for the fund (delivery route iv above). This will set a benchmark for the costs of allowable solutions. While we anticipate that the other delivery routes should bring forward measures at prices below the fund price cap there may be cases where a house builder may voluntarily want to support specific measures that cost more than the price cap. We therefore will not put a price cap on the other delivery routes.
14. The consultation set out 3 price cap scenarios for allowable solutions – low (£36 per tonne of carbon), central (£60 per tonne of carbon) and high (£90 per tonne of carbon). We recognise the importance of setting an appropriate price cap: too high and it could seriously stifle growth; too low and there is a risk that allowable solutions measures may not be available at or below that price and it may not drive forward innovation. The consultation brought much conjecture but no new evidence on how the different price caps may impact either on the extent to which allowable solutions measures would be brought forward or on the viability of house building. However, it is clear that house builders – who will be the consumers of allowable solutions – have strong concerns about potential costs and the impact on house building. We will therefore undertake further analysis on these impacts before a decision on the price cap is made.
15. There was strong support for reviewing the price cap every 3 year and we agree that provides an appropriate interval for review and we will take that forward.

About the consultation

16. The Department for Communities and Local Government (DCLG) issued the consultation '*Next steps to zero carbon homes – Allowable Solutions*' on 6 August 2013, the consultation closed on 15 October 2013. Allowable Solutions are carbon abatement measures that house builders may support to offset carbon emissions from the new homes they build. The scope of the consultation was to set out, seek views and gather further evidence on the key principles, price cap and processes for the delivery of Allowable Solutions. The intention is to provide an Allowable Solutions framework that provides a flexible and cost effective means for house builders to meet the zero carbon homes standard that the government intends to implement from 2016. The consultation was divided into 6 chapters.

Chapter 1 – Fabric energy efficiency and carbon compliance

17. Chapter 1 of the consultation explained that fabric energy efficiency and carbon compliance levels will set a minimum threshold for onsite energy performance measures for 2016. Although the government cannot anticipate the final detailed energy performance requirements for 2016, which will be subject to full consultation in due course, the consultation sought views on whether the government should base its consideration for the requirements on fabric energy efficiency and carbon compliance standards recommended by the Zero Carbon Hub's independent report in 2011⁴. It also asked whether respondents had any evidence which could be used to review the assumptions underpinning the Zero Carbon Hub's recommendations.

Chapter 2 – Design principles for Allowable Solutions

18. Chapter 2 explained the basic approach and objectives for Allowable Solutions and proposed a set of five basic design principles:

- that the house builders should be able to decide how to mitigate the carbon emissions arising from regulated energy;⁵

⁴ http://www.zerocarbonhub.org/resourcefiles/ZeroCarbonStrategies_web.pdf;

<http://www.zerocarbonhub.org/building.aspx?page=2>;

<http://www.zerocarbonhub.org/definition.aspx?page=8>

⁵ Regulated energy may derive from sources such as fixed heating, hot water, ventilation and fixed lighting and other fixed building services. It does not, however, include appliances such as white goods.

- Allowable Solutions framework should give the house builders choice and flexibility
- the carbon savings from Allowable Solutions must be additional
- that Allowable Solutions should deliver cost effective carbon savings
- steps are taken to minimise administration overheads.

19. Views were sought on whether or not these design principles are appropriate for the policy, and if the respondents had any other principles they would like to add. The second section of the chapter considered possible delivery routes for Allowable Solutions centred around a proposed “menu of options” which the house builders can choose from to meet the zero carbon homes standard:

- more / all on-site carbon abatement;
- meeting the remaining carbon abatement requirement themselves through off-site carbon abatement action – the ‘D-I-Y’ approach
- contracting with a third party Allowable Solutions provider
- making a payment into a fund.

20. Respondents were asked to state whether or not they agreed with a “menu” based approach and if they had any alternatives to the proposed delivery routes.

Chapter 3 – Other delivery options considered

21. Chapter 3 sought views on two other options for the delivery of Allowable Solutions that the government had considered:

- a “do nothing” approach, whereby there would be no national policy framework, thus leaving local authorities to take action as they see fit
- a mandated local scheme, where local authorities would be required to have Allowable Solutions available for developments in their areas.

22. Respondents were asked whether or not there should be a national policy framework in place and also whether there should be a mandated local approach to Allowable Solutions.

Chapter 4 – Allowable Solutions measures and verification:

23. Chapter 4 set out options for determining what carbon abatement measures should be supported by Allowable Solutions. It also discussed approaches to verification to ensure that the measures supported meet the appropriate conditions.
24. Views were sought on concentrating Allowable Solutions on particular types of measure, confining Allowable Solutions to measures in the non-traded sector⁶, using Allowable Solutions to support measures in the traded sector and extending measures to cover domestic and non-domestic buildings.
25. The chapter also contained questions on how to verify savings from Allowable Solutions projects, and whether the verification system should include arrangements for *ex ante* and *ex post* verification. Views were also sought on how best to operate the system and the possibility of sanctions for failing to deliver the expected Allowable Solutions.

Chapter 5: Price cap

26. Chapter 5 sought views on how Allowable Solutions could be priced and proposed the use of use of a price cap or ceiling. Three price cap scenarios were proposed, a low price cap (£36/tCO₂), central price cap (£60/CO₂), and a high price cap (£90/tCO₂). Views were sought on which level of price cap was appropriate, the potential impact it could have on future development and how often it should be reviewed. Respondents were also asked to give their views on whether the level of carbon abatement to be achieved should take account of the future decarbonisation of the grid.

Chapter 6 - Allowable Solutions delivery routes

27. Chapter 6 considered in more detail the “menu” of delivery routes described in chapter 2. It sought views on how the different delivery routes could operate in practice and whether the government should explore the possibility of establishing matching and/or brokerage systems for the third party contract route, to enable house builders to quickly and simply find potential Allowable Solutions projects. It also asked respondents to state their preferred delivery route and their reasons for their answer.

⁶ Non traded sector refers to sectors of the economy not covered by the European Union Emissions Trading Scheme. In broad terms these are emissions resulting from heat, transport, waste and agriculture.

Chapter 7: Next steps

28. Chapter 7 noted that, depending on outcome of the consultation, the government would expect to develop a detailed design model for Allowable Solutions which would be the subject of a further consultation. It stated that the government recognised that Allowable Solutions are a completely new concept for the house building industry and sought views on what might be an appropriate 'familiarisation' period for industry.

Overview of consultation responses

29. The consultation received a total of 172 responses, of which 146 were completed on the response form provided as part of the consultation and 26 were written responses. The majority of responses were received by email.

30. Respondents were asked to assign themselves to one of 26 detailed organisational type categories identified on the response form. For the purpose of this analysis, these 26 categories were further grouped into ten broad respondent types. Table 1 below provides a breakdown of the 173 responses by broad category.

	Builders/ Developers	Local Authority	Designers/ Engineers/ Surveyors	Manufacturer/ Supply Chain	Property management	Building Control Approved Inspectors	Specific Interest	Energy Sector	Other	Building Occupier	TOTAL
Total responses received	25	55	10	9	5	0	14	15	32	7	172
Percentage of total responses	15	32%	6%	5%	3%	0	8%	9%	18%	4%	100%

Table 1: Breakdown of respondents by broad organisational type

31. Table 2 below provides the details of how the detailed organisational categories have been grouped into the broad organisation type:

Broad organisation type:	Includes:
Builder / Developers	Builder (main contractor); small builders; installers / specialist sub-contractors; commercial developer; house builders, organisations representing house builders and commercial developers
Local Authority	All local authorities, including county councils, district councils, unitary authorities, city councils and organisations representing local authorities
Designers / Engineers / Surveyors	Architects; Civil / Structural Engineers; Building Services Engineer; Surveyor
Manufacturer / Supply Chain	Product manufacturers and those involved in the supply chain
Property Management:	Housing associations (registered social landlords); Residential landlords (private sector); commercial property management; public sector property management
Building Control Approved Inspectors	All private sector building control organisations
Special Interest	Competent Person Scheme operators; trade bodies; Professional bodies or institution; Research / academic organisation

Energy sector	Any organisation involved in the energy sector
Building Occupier	Homeowner; tenant (residential); commercial building occupier
Other	Respondents were asked to specify

Table 2: Categorisation of organisations responding to the consultation

32. This report is structured around seven chapters which reflect those set out in the *Next steps to zero carbon homes – Allowable Solutions* consultation document. Each chapter includes summary qualitative analysis of the views and comments submitted for each consultation question in that chapter as well as tables showing how the different organisation types responded to the question. The figures in the tables provide a quantitative analysis of responses. Where questions invited comments only qualitative analysis has been provided without any tables. All quantitative analysis tables are also provided at Annex A.
33. It should be noted that none of the answers to the consultation received a 100% response. Every percentage given in the tables and text in this report is a percentage of the replies of those who answered the particular question, unless stated otherwise. It should also be noted that no responses were received from building control approved inspectors and so this category is not included in the tables throughout the report.
34. This report is an analysis of the formal consultation responses received by DCLG. It does not set out how we intend to take these proposals forward. Decisions on the implementation of proposals will be the subject of separate statements
35. Further views were expressed at a series of ‘Have Your Say’ consultation events organised by the Zero Carbon Hub. Feedback from these events can be found in the Zero Carbon Hub’s report on [‘Allowable Solutions and Housing Standards Review – Feedback from a series of consultation events’](#)⁷.

⁷http://www.zerocarbonhub.org/sites/default/files/resources/reports/Allowable_Solutions_and_Housing_Review_Feedback_from_a_Series_of_Consultation_Events.pdf

Chapter 1: Fabric Energy Efficiency and Carbon Compliance

36. The consultation explained that fabric energy efficiency and carbon compliance levels will set a minimum threshold for onsite energy performance measures for 2016. It was noted that although the government cannot anticipate the final detailed energy performance requirements for 2016, which will be subject to full consultation in due course, the government is keen to start thinking about the levels at which those requirements are set.

37. The consultation proposed that the government should base its consideration for the 2016 energy performance requirements on the Zero Carbon Hub's recommendations for a carbon target for carbon compliance and energy demand targets for fabric energy efficiency levels set out in its [2011 report](#)⁸. Question 1 sought views on this proposal:

Question 1 – Do you agree that the government should base its consideration for energy performance standards for 2016 on the Fabric Energy Efficiency and Carbon Compliance Standard recommended by the Zero Carbon Hub and endorsed by the government in May 2011? Yes/No. Please give reasons for your answer.

38. The majority of respondents (70% - 93 of 133) were in favour of this approach. There was a consensus that the research of the Zero Carbon Hub is well balanced and is the only substantial source of data available. However, only 36% (8 of 22) of respondents in the builder / developer category agreed with using the Zero Carbon Hub's recommendations. Concerns were expressed about the length of time passed since the work was carried out, and it was therefore not up to date with current technology. Other builder / developers who disagreed with the approach commented that they considered the review of Part L of the Building Regulations had already gone far enough in terms of fabric energy efficiency, that there was no need for a specific carbon compliance target and Allowable Solutions would be a more practical way of meeting the zero carbon homes standard.

39. Others who disagreed with the proposal did so because they considered that the Zero Carbon Hub's recommendations did not go far enough, and felt there would be an opportunity for more on-site carbon abatement when materials and methods improve in the future. Several local authorities pointed out that many developments already exceed the recommendations out forward by the Zero Carbon Hub, although it should be said that only 22% (10 of 45) of local authorities were against using the recommendations of the Zero Carbon Hub.

⁸ <http://www.zerocarbonhub.org/full-lib>

Q1: Do you agree that the government should base its consideration for energy performance standards for 2016 on the fabric energy efficiency and carbon compliance standard recommended by the Zero Carbon Hub and endorsed by the government in May 2011?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		93	8	35	7	7	1	10	6	18	1
No		40	14	10	2	1	0	2	2	6	3
Total		133	22	45	9	8	1	12	8	24	4
Yes %	54%	70%	36%	78%	78%	88%	100%	83%	75%	75%	25%
No %	23%	30%	64%	22%	22%	13%	0%	17%	25%	25%	75%
Unanswered %	23%										

Table 3: Percentages of groups agreeing or disagreeing with using Zero Carbon Hub recommendations

40. Respondents were also asked if they had any extra data that could be used in conjunction with, or instead of the Zero Carbon Hub recommendations.

Question 2: Do you have evidence, including data costs, which you make available to DCLG and could be used in reviewing the assumptions underpinning the Fabric Energy Efficiency and Carbon Compliance standards?

41. The majority of respondents to this question said they did not possess any data that could be used in this way. Some case studies and the data were provided but these were limited in scope. Subsequent to the consultations, the Zero Carbon Hub has produced an [update of the costs](#)⁹ it quoted in its 2011 report.

⁹ http://www.zerocarbonhub.org/sites/default/files/resources/reports/Cost_Analysis-Meeting_the_Zero_Carbon_Standard.pdf

Chapter 2: Design Principles for Allowable Solutions

42. Chapter 2 explained the basic approach and objectives for Allowable Solutions and proposed a set of five basic design principles. Paragraph 2.4 of the consultation document described the design principles as follows:

- (a) Allowable Solutions arise from the obligation for house builders to mitigate the carbon emissions arising from regulated energy. Given this basic obligation, it is right that **house builders decide how they meet that obligation** and should not have this dictated to them. This is in line with the basic functional approach in Building Regulations whereby the regulations set out functional requirements and underlying performance standards but leave it to developers to determine the measures they will use to meet their obligations.
- (b) Flowing from this, the government wishes to develop **a framework which gives house builders choice and flexibility** in how to meet their obligations. That is why a variety of compliance routes are suggested in this consultation. Choice and flexibility will, the government believes, also encourage innovation and competition and thus drive down the costs of meeting the obligation and delivering Allowable Solutions.
- (c) The **carbon savings derived from Allowable Solutions should be additional** and over and above the carbon savings that would have been delivered without the availability of Allowable Solutions. Chapter 4 below sets out ideas as to how this design principle might be expressed in the operational design of Allowable Solutions, in particular around appropriate verification arrangements.
- (d) The government wishes to ensure that Allowable Solutions deliver cost effective carbon savings. It is in no one's interest to ask house builders to deliver carbon savings at exorbitant costs, which compromise the viability of development, or to divert resources into delivering expensive carbon savings when more cost effective opportunities are available. That is why the May 2011 statement set out that government would price Allowable Solutions in relation to long term carbon values as means of benchmarking a cost effective price. This principle has been expressed in the options for pricing Allowable Solutions discussed in Chapter 5 below.
- (e) Finally, it is essential that steps are taken to **minimise the administration overheads**, while ensuring that the key elements of the delivery system are robust (most notably the verification scheme).

43. Respondents were asked whether they would support all, none, or a selection of the design principles for Allowable Solutions:

Question 3: Do you agree with these design principles for Allowable Solutions set out in paragraph 2.4 (a to e) of the consultation document? If no, with which do you disagree with and why?

44. Sixty-eight percent (92/135) of those who answered the question agreed with all of the design principles set out in chapter 2. Most of the “agree with all answers” were comment free, which suggests general support for the 5 design principles. Support was particularly strong from builder/developers, specific interest groups and the energy sector, all of which gave support in excess of 78% (see table 4 below for breakdown of responses by organisation category).

45. Of those who agreed and provided comments some suggested that the design principles were not specific enough. One comment wanted to know how the government would define “cost-effective”, whilst another was concerned about leaving point b too open-ended, which could create confusion for the house builder.

Q3: Do you agree with these design principles for Allowable Solutions set out in paragraph 2.4 (a to e) of the consultation document? If no, with which do you disagree and why?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Agree with all		92	18	28	6	4	2	10	8	16	0
Disagree with one/more		43	5	16	2	3	1	1	2	9	4
Total		135	23	44	8	7	3	11	10	25	4
agree all	53%	68%	78%	64%	75%	57%	67%	91%	80%	64%	0%
disagree one or more	25%	32%	22%	36%	25%	43%	33%	9%	20%	36%	100%
Unanswered %	22%										

Table 4: Responses to design principles for Allowable Solutions

46. Only 32% (43/135) of responses to this question disagreed with one or more of the design principles suggested in the consultation. Of these the biggest proportion 77% (33 of 43) disagreed with the principle that house builders should be able to decide for themselves how to meet the obligation. In particular, some local authorities commented that house builders should be made to support local measures, rather than being allowed to have free choice in how and where they carry out their carbon abatement. Table 5 below provides the number and proportions off respondents who disagreed with each of the design principles.

Disagree with:	% of all responses	All who answered question	% of those who disagree with one/more design principle
a (house builders decide how they meet obligation)	19%	33	77%
b (framework which gives choice and flexibility)	14%	24	56%
c (carbon savings should be additional)	9%	16	37%
d (Allowable Solutions deliver cost effective carbon savings)	14%	25	58%
e (minimise the administration overheads)	8%	13	30%

Table 5: Responses disagreeing with one or more design principles

47. The consultation also sought views on any additional design principles that respondents felt should be added and considered either alongside or instead of the design principles mentioned in chapter 2.

Question 4: Are there other design principles which you think that the government should consider? Please provide an explanation for any other design principles suggested.

48. Views were expressed that eco-friendly developments should be made compulsory as part of the house building process, meaning that the builders would be discouraged from building inefficient homes and then paying into a fund. Others felt full Fabric Energy Efficiency Standard would be an appropriate starting point and while some said that the Passivhaus standard should be used as the starting point for the government to consider. Local authorities also re-iterated their point that any form of Allowable Solution should be focussed locally, rather than being the choice of the house builder. A view was expressed that the energy companies should be closer to Allowable Solutions; they would be required to put money into energy projects whilst the house builders concentrated on improving the energy efficiency of the buildings.

49. The consultation then set out a range of options that house builders could use to deliver Allowable Solutions in paragraph 2.7 of the document. The options were as follows:

- (f) Undertaking the full 100% of carbon abatement through on-site or through connected measures
- (g) House builders Meeting the remaining carbon abatement themselves through off-site carbon abatement actions – the ‘do-it-yourself’ option.
- (h) Contracting with a third party Allowable Solutions provider for them to deliver carbon abatement measures sufficient to meet the house builders’

obligations. In most cases, the third party is expected to be a private sector body. However, house builders could also contract with a local authority where it is able to offer a carbon abatement service.

- (i) Making a payment which is directed into a fund which then invests in projects which will deliver carbon abatement on their behalf

50. Views were consulted on giving the house builder a choice as to how they deliver Allowable solutions, and whether the options were appropriate.

Question 5: Do you agree that house builders should have a variety of routes, as set out in paragraph 2.7 of the consultation document, to meet their zero carbon homes obligations?

51. There was a majority in favour of the house builders having a variety of routes available, with 78% (116/148) of answers agreeing with the statement. See table 6 below for a breakdown of responses by organisation category. Strong support came from every category apart from the building occupier category; 7 out of the 9 categories had positive responses in excess of 75%. Eighty-eight per cent (21/24) of builder/developers were in favour of having a variety of options with a 92% (11/12 and 12/13) support rate from the energy sector and specific interest categories respectively. Opinions were expressed that the list should not be too prescriptive and restrict the house builder too much.

52. Whilst supporting a multiple options approach, there were categories, including local authorities, who thought that Allowable Solutions should have a local focus. Building occupiers had the largest proportion not in favour of house builder choice with 3 out of 5 respondents disagreeing with question 5. Local authorities were the category with the second highest level of responses not in favour of builders having their own choice, some commenting that the payment for Allowable Solutions would not stay in the local area affected by the development.

Q5: Do you agree that house builders should have a variety of routes, as set out in paragraph 2.7 of the consultation document, to meet their zero carbon homes obligations?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		116	21	32	7	6	3	12	11	22	2
No		32	3	17	2	1	0	1	1	4	3
Total		148	24	49	9	7	3	13	12	26	5
Yes	67%	78%	88%	65%	78%	86%	100%	92%	92%	85%	40%
No	19%	22%	13%	35%	22%	14%	0%	8%	8%	15%	60%
Unanswered %	14%										

Table 6: Table of responses giving house builders a variety of routes available to meet their zero carbon homes obligations

53. Views were sought on the different delivery options set out in paragraph 2.7 of the consultation document, including, whether the respondents agreed with all, or disagreed with one or more of the delivery routes.

Question 6: Do you agree or disagree with any of the routes ((i) to (iv)) identified in paragraph 2.7 of the consultation document and do you have any other routes to suggest? Please provide an explanation for any other suggestions.

54. Sixty –two per cent (85/138) of those who answered the question said they were in favour of all of the routes proposed in paragraph 2.7. Combined with answers to question 5 this indicates a strong overall support for house builders having flexibility in choosing how to deliver Allowable Solutions, and that the “menu” of choices proposed in paragraph 2.7 is an appropriate method of delivering Allowable Solutions. Overall, this suggests that the method of designing and delivering Allowable Solutions proposed by the government has support from the majority of responses. Comments were also offered in support of the DIY option, with some organisations suggesting improving existing stock is a reasonable possibility, whilst maintaining flexibility is key.

55. Of the 38% (53/138) of replies not in favour of all of the design principles, 70% disagreed with the builder DIY option. Concerns were expressed that allowing a retrofit of existing houses could permit building energy inefficient homes.

56. Some responses also expressed concern again that there is no mandatory local approach to any of the delivery routes. Others commented that the use of a fund is acceptable but developers should be required to put some of the money into the local area. Others also expressed concern that the cost of administering and

verifying the scheme could be difficult and costly, and potentially that administration of the scheme would have to be carried out through a third party.

Q6: Do you agree or disagree with any of the routes (i) to (iv)) identified in paragraph 2.7 of the consultation document and do you have other routes to suggest.											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Agree with all		85	19	18	6	6	1	10	9	15	1
Disagree with one/more		53	3	29	2	1	1	1	3	9	4
Total		138	22	47	8	7	2	11	12	24	5
Agree with all	49%	62%	86%	38%	75%	86%	50%	91%	75%	63%	20%
Disagree with one/more	31%	38%	14%	62%	25%	14%	50%	9%	25%	38%	80%
Unanswered %	20%										

Table 7: Responses to agreeing or disagreeing with routes identified in paragraph 2.7

Disagree with	% of all responses	All who answered question	% of those who disagree with one/more delivery routes
(i) more on site	5%	8	15%
(ii) house builder DIY	21%	37	70%
(iii) contract with 3rd party	17%	29	55%
(iv) fund	16%	27	51%

Table 8: Percentages of people disagreeing with each option

57. The consultation then went on to ask the house builders (only) which of the 4 delivery routes they would be most likely to use to carry out allowable solutions.

Question 7: (For house builders) How likely are you to use any of the routes identified in paragraph 2.7 of the consultation document?

58. Delivery route (iv) was the most popular choice for house builders, with 56% (5/9) respondents saying that they would prefer to pay into a fund and allow that to choose how best to achieve carbon abatement. Delivery route (iii) - contracting with a third party - was the second most popular route, with 44% (4/9) respondents saying they would be likely to use this route. Delivery route (i) was the third most

popular, with 22% (2/9) respondents saying that they would be likely to do more on site to deliver carbon abatement and 56% (5/9) respondents saying that they would occasionally use this system. The least popular of the options presented was the house builder DIY approach, where 22% (2/9) said they were likely to use the option but 67% (6/9) said they were unlikely to use it.

59. In summary, it seems house builders are most likely to follow the fund option for carbon abatement, rather than any of the alternatives – less than half of the respondents for any of the other delivery options said they would use the other routes.

Q7: (For house builders) How likely are you to use any of the routes identified in paragraph 2.7 of the consultation document?			
Route	Very likely	Occasionally	Unlikely
(i) Doing more on-site	22% (n=2)	56% (n=5)	22% (n=2)
(ii) Delivering off-site through own actions	22% (n=2)	11% (n=1)	67% (n=6)
(iii) Contracting with a 3rd party	44% (n=4)	33% (n=3)	22% (n=2)
(iv) Payment into a fund	56% (n=5)	44% (n=4)	0% (n=0)

Table 9: The likelihood of house builders choosing each Allowable Solution

60. The consultation then sought opinions on the ability of the market to scale up to meet the demand for carbon abatement.

Question 8: Do you think the current market could scale up to meet additional demand for carbon abatement?

61. Seventy-eight per cent (77/99) of responses to this question thought the market could scale up to meet the demand for carbon abatement. Many pointed to the improvements in zero carbon technology over the past years and cited a real interest from industry to get involved and increase supply. Significantly, 80% (4/5) of the answers saying the market could scale up came from the Manufacturing and Supply Chain category.

62. Some of the 22% (22/99) who disagreed expressed concerns at the capacity of the private sector to increase the supply to meet the demand. This included comments from local authorities considered there to be no real incentive for the private sector to increase its capacity to meet the demand, due to the costs involved.

Q8: Do you think the current market could scale up to meet additional demand for carbon abatement?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	6	29	3	4	1	8	6	16	4
No		22	11	2	3	1	1	1	0	3	0
Total		99	17	31	6	5	2	9	6	19	4
Yes	45%	78%	35%	94%	50%	80%	50%	89%	100%	84%	100%
No	13%	22%	65%	6%	50%	20%	50%	11%	0%	16%	0%
Unanswered %	42%										

Table 10: Responses to the market scaling up to meet demand

Chapter 3: Other Delivery Options Considered

63. Chapter 3 sought views on two other options for the delivery of Allowable Solutions that the government had considered:

- I. **Do nothing:** no national policy framework with local authorities allowed to take action as they see fit.
- II. **Mandated local scheme:** local authorities would be required to offer Allowable Solutions for developments in their areas.

64. The consultation invited respondents' views on using a national policy framework for Allowable Solutions, rather than leaving local authorities to decide locally.

Question 9: Do you agree that the government should set out a national policy framework for Allowable Solutions and not leave it to local authorities to decide locally? Yes/No. Please give reasons for you answer.

65. Seventy-nine per cent (114/144) of responses to this question supported the idea of a national policy framework through which to base Allowable Solutions. See table 11 below for breakdown of responses by organisation category. The consensus was that a national policy would be best to avoid the potential of a "post-code lottery" and rules being applied differently in different areas. The sentiment was that the best way of standardising Allowable Solutions is through a national policy framework.

Q9: Do you agree that the government should set out a national policy framework for Allowable Solutions and not leave it to local authorities to decide locally?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		114	21	32	8	6	4	10	9	21	3
No		30	1	15	1	1	0	2	2	5	3
Total		144	22	47	9	7	4	12	11	26	6
Yes	66%	79%	95%	68%	89%	86%	100%	83%	82%	81%	50%
No	17%	21%	5%	32%	11%	14%	0%	17%	18%	19%	50%
Unanswered %	16%										

Table 11: Responses to the government setting out a national policy framework for Allowable Solutions

66. The government set out its view that a mandatory local scheme is likely to create the most costly option for house builders due to there being no competitive pressures and, as a result, local authorities would have no incentive to charge below any maximum price cap. The government suggested that the local authorities could engage with house builders through the delivery routes set out in chapter 2 of the consultation document.
67. The government sought opinions on its view that a mandated local approach should not be a part of the national policy framework.

Question 10: Do you agree that a mandated local approach to the delivery of Allowable Solutions has no role in national policy for the reasons set out in paragraphs 3.13 to 3.18 of the consultation document?

68. The majority of respondents agreed with this approach, 66% (88/133) said that a mandated local approach had no role in national policy. Whilst promoting consistency across the country, there was also a consensus among respondents that a mandated local approach could cause extra bureaucracy and would incur costs. Concern was also expressed about the capabilities of some local authorities to deliver Allowable Solutions in their areas. This could cause delays to developments and again incur extra costs for all parties. It should also be pointed out that local authorities supported this statement with 52% (24/46) in favour. Some local authorities did, however, add that they thought any house builder opting to contract with a third party should give priority to a local authority option.
69. Thirty-four per cent (45/133) of respondents disagreed with question 10, and were in favour of a mandated local approach. Forty-nine per cent (22/45) of the total “no” responses to the question were from local authorities, all of whom felt that there was a definite role for local authorities to play in delivering Allowable Solutions. They felt that a local approach would benefit the communities impacted by the developments. There was a consensus among these respondents that local authorities should be active and could provide schemes of greater strategic importance to the local area that may not otherwise get funding.

Q10: Do you agree that a mandated local approach to the delivery Allowable Solutions has no role in this national policy for the reasons set out in paragraphs 3.13 to 3.18 of the consultation document?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		88	21	24	4	3	2	8	6	19	1
No		45	3	22	2	2	1	2	3	6	4
Total		133	24	46	6	5	3	10	9	25	5
Yes	51%	66%	88%	52%	67%	60%	67%	80%	67%	76%	20%
No	26%	34%	13%	48%	33%	40%	33%	20%	33%	24%	80%
Unanswered %	23%										

Table 12: Responses to a mandated local approach to the delivery of Allowable Solutions having no role in national policy

Chapter 4: Allowable Solutions Measures and Verification

70. Chapter 4 of the consultation set out options for determining which carbon abatement measures should be supported by Allowable Solutions. Two options were presented: a “prescribed list” or a “criteria based” approach. Using the prescribed list approach, the house builders would be required to choose their Allowable Solutions from a list of measures or technologies to abate their carbon. The alternative criteria based approach would mean that the house builder could have free choice of how to meet Allowable Solutions, provided they could prove that their chosen option met the criteria. The main considerations set out in the consultation were:

- i. **Flexibility:** providing a prescribed list (particularly one set out regulations) reduces the ability for new ideas to be brought forward and could stifle innovation. There could be definitional problems also.
- ii. **Clarity and transparency:** A prescribed list provides house builders with certainty and a clear indication of measures which are ‘allowed’. There would be little doubt as to whether any particular measure counted or not. This would provide certainty to house builders.
- iii. **Verification:** To be included on a list, an abatement measure would need to have demonstrated that it could deliver cost effect, additional carbon savings. This would form part of an *ex ante* verification process.

71. The government asked for views on whether Allowable Solutions should focus on particular types of measure.

Question 11 – Should Allowable Solutions be concentrated on particular types of measure?

72. Seventy-four per cent (99/134) of responses did not support Allowable Solutions focussing on particular types of measure. Builder/developers in particular thought Allowable Solutions should not be focussed on particular types of measure, with 83% (20/24) sharing this opinion. There was a consensus that being too prescriptive would stifle flexibility within the market, and could lead to house builders not having choice in how to approach each development. Replies centred around using the most appropriate solution for each individual development and allowing the developer to decide how best to abate the carbon, as this would be the most cost-effective and most appropriate way of doing so. Some pointed to the market mechanism as being the best way of deciding price and availability of Allowable Solutions. The consultation set out that developer flexibility is one of the key points of Allowable Solutions and the majority of respondents agreed with this.

73. Twenty-six per cent (35/134) of respondents said that Allowable Solutions should be concentrated on a particular type of measure. Those in support of concentrating on particular types of measure pointed to a robust set of criteria which could promote specific types of carbon abatement. Others said making houses generally energy efficient should be a priority.

Q11: Should Allowable Solutions be concentrated on particular types of measure?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		35	4	12	1	4	2	3	3	6	0
No		99	20	33	8	2	1	9	5	18	3
Total		134	24	45	9	6	3	12	8	24	3
Yes	20%	26%	17%	27%	11%	67%	67%	25%	38%	25%	0%
No	58%	74%	83%	73%	89%	33%	33%	75%	63%	75%	100%
Unanswered %	22%										

Table 13: Responses to concentrating Allowable Solutions on particular types of measure

74. The consultation noted that for the purposes of carbon abatement policy, the economy is divided into two sectors – the traded sector, which is the sector of the economy covered by the European Union Emissions Trading Scheme and the non-traded sector, which is the sector of the economy not covered by the European Union Emissions Trading Scheme. In broad terms, the non-traded sector refers to heat, transport, waste and agriculture sectors.

75. The consultation set out the government’s view that the measures should not only be confined to the non-traded sector. This is based on analysis for the Electricity Demand Reduction, Energy Efficiency and Low Carbon Heat strategies. The analysis suggested that there were routes available that could reduce carbon both in the traded, and non-traded sectors which are not currently being taken up. Allowable Solutions could be designed to remove the barriers to exploit this opportunities.

76. The consultation sought views on confining the measures to the traded or non-traded sectors.

Question 12: Do you think Allowable Solutions should be confined only to measures in the non-traded sector of the economy? Yes/No. Please give reasons for your answer.

77. Seventy-one per cent (85/119) respondents agreed with the government’s position that the measures should not be confined to the non-traded sector of the economy. Most of the supporters of this view again said that flexibility was vital for the success of Allowable Solutions. They agreed with the government’s view that by constricting measures non-traded sector growth and change in the market for Allowable Solutions will be more difficult. The respondents also pointed out that there is a significant set of emissions arising from both sectors, and therefore they should both be measured, which would promote advances in both sectors. Concerns were also expressed around definitions of traded and non-traded sectors, where in some circumstances it can be argued which sector an abatement measure belongs to. This could lead to problems with double counting and cause problems with measuring the actual carbon abatement.

78. Twenty-nine per cent (34/119) of respondents said that they felt that the measures should be constrained to the non-traded sector of the economy. Some of these responses viewed emissions in the traded sector as already being covered by the European Union Emissions Trading Scheme, and therefore do not satisfy the criteria of being “additional”. Some also suggested that the European Union Emissions Trading Scheme already has sanctions in place for failing to meet obligations.

Q12: Do you think that Allowable Solutions should be confined to only to measures in the non traded sector of the economy?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		34	4	11	2	3	1	4	2	6	1
No		85	18	24	5	3	2	8	9	14	2
Total		119	22	35	7	6	3	12	11	20	3
Yes	20%	29%	18%	31%	29%	50%	33%	33%	18%	30%	33%
No	49%	71%	82%	69%	71%	50%	67%	67%	82%	70%	67%
Unanswered %	31%										

Table 14: Table showing percentages of responses confining the measures to the non-trade sector of the economy

79. The consultation also sought views on whether the measures in the traded sector should be supported by Allowable Solutions, provided that they meet the appropriate criteria.

Question 13: Should measures in the traded sector by Allowable Solutions, provided that they meet the appropriate criteria? Yes/No. Please give reasons for your answer

80. A total of 112 responses to this question were received, and 75% (84/112) of those responses were in favour of the government’s view that Allowable Solutions should support measures in the traded sector, as well as the non-traded sector. There was a consensus that maximum flexibility in the sector is the best way of meeting emissions targets. Views were also expressed that a holistic approach to zero carbon is the only way of bringing the total carbon emissions down. Some respondents also said they thought the total amount of carbon abated would be higher if both sectors could be taken into account, and would add an incentive to use a variety of different carbon abatement methods.
81. As in the previous question, some respondents were concerned that separating the amounts of carbon abated through traded and non-traded sectors would be too difficult to be practical.
82. Twenty-five per cent (28/112) of responses were not in favour of measures in the traded sector being supported by Allowable Solutions. Some stated that the European Union Emissions Trading Scheme already performs this role and takes into account the savings from carbon abatement. Others suggested that the current scheme and Allowable Solutions are set for different reasons, and could cause duplication. Some respondents also felt that there can be no further decrease in emissions from the traded sector.

Q13: Should measures in the traded sector be supported by Allowable Solutions, provided that they meet the appropriate criteria?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		84	19	27	3	3	2	8	9	12	1
No		28	2	8	3	2	0	3	1	7	2
Total		112	21	35	6	5	2	11	10	19	3
Yes	49%	75%	90%	77%	50%	60%	100%	73%	90%	63%	33%
No	16%	25%	10%	23%	50%	40%	0%	27%	10%	37%	67%
Unanswered %	35%										

Table 15: Table of responses to Allowable Solutions supporting measures in the traded sector

83. The consultation then invited views on confining Allowable Solutions to measures in the built environment.

Question 14: Do you think that Allowable Solutions should be confined to measures in the built environment? Yes/No. Please give reasons for your answer.

84. A slim majority (55%, 80/145) were in favour of confining Allowable Solutions to measures in the built environment. 55% (27/49) of local authorities were in favour of confining measures to the built environment, whereas only 33% (8/24) of builder/developers were in support. There were some responses highlighting a lack of definition of what is meant by “built environment”, and their support, or lack thereof, depended on how the built environment is defined. Some said that by limiting measures to the built environment initially, there would be a more retrofitting carried out by the house builders. There was also a consensus that the built environment is the cause of new emissions and therefore Allowable Solutions should use it as the focus. Another view was expressed that there were still many options in the built environment that hadn’t yet been explored, and so the measures should be confined there first.

85. The responses against confining to the built environment had a consensus that there were many opportunities for carbon abatement outside of the built environment that could be explored by Allowable Solutions. Some responses also point to the overall objective of meeting zero carbon homes by 2016 and that this could be best achieved by using as many carbon abatement measures as possible.

Q14: Do you think that Allowable Solutions should be confined to measures in the built environment?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		80	8	27	5	5	3	9	9	14	0
No		65	16	22	4	2	2	3	2	10	4
Total		145	24	49	9	7	5	12	11	24	4
Yes	47%	55%	33%	55%	56%	71%	60%	75%	82%	58%	0%
No	38%	45%	67%	45%	44%	29%	40%	25%	18%	42%	100%
Unanswered %	16%										

Table 16: Responses to question of confining Allowable Solutions to the built environment

86. The consultation also considered confining Allowable Solutions measures to domestic buildings only, or to increasing their scope to cover non-domestic buildings, and invited respondents to give their views.

Question 15: Do you think that measures should just be confined to residential buildings or should also cover non domestic buildings?

87. Ninety-three per cent (134/144) of respondents said they felt Allowable Solutions measures should cover both domestic and non-domestic buildings. Responses had the view that by adding non-domestic to Allowable Solutions, there would be a greater amount of funding for Allowable Solutions measures. It was also felt that there would be an increase in the take-up of community and district heating projects, which would increase the overall take-up of carbon abatement technologies. Others pointed out that carbon abatement from technology could also be used in mixed use building to ensure that the targets are reached. There were some who commented that all types of buildings are responsible for carbon emissions and therefore the proposals should not only be confined to domestic buildings, as well as standardising regulations both for domestic and non-domestic buildings.

88. Seven per cent (10/144) of those people responding said they were not in favour of applying Allowable Solutions both to domestic and non-domestic buildings. Some of those felt that applying the rules to both domestic and non-domestic would, at this stage be too complicated. Some of the respondents also felt that calculating the abatement of both the domestic and domestic would be too challenging, and all but impossible to avoid double-counting the savings.

Q15: Do you think that measures should just be confined to residential buildings or should also cover non domestic buildings?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Residential only		10	1	4	2	0	0	1	0	2	0
Residential & non-domestic		134	23	47	7	7	4	11	11	19	5
Total		144	24	51	9	7	4	12	11	21	5
Residential only	6%	7%	4%	8%	22%	0%	0%	8%	0%	10%	0%
Residential & non-domestic	78%	93%	96%	92%	78%	100%	100%	92%	100%	90%	100%
Unanswered %	16%										

Table 17: Responses to whether carbon abatement savings should also cover non-domestic buildings

89. The consultation sought views on spatial criteria for Allowable Solutions. Three limits were proposed:

- i. Allowable Solutions should be limited to projects located in the locality of the development
Allowable Solutions should be limited to projects located in England
- ii. Allowable Solutions should be limited to projects located in the United Kingdom.

Question 16: Do you think that there should be any spatial limitations on Allowable Solutions? If yes, do you think that Allowable Solutions should be limited to projects located in: the locality of the development, England or United Kingdom

90. In response to this question, 93% (129/138) of respondents said they did want to place any form of spatial criteria on Allowable Solutions. 43% (60/138) of respondents said that they were in favour of having a spatial criteria set in the locality of the project, 22% (31/138) of respondents suggested that the spatial criteria should be set to within England, and 28% (38/138) of respondents said that the spatial criteria should be set within the UK. The preferred option for builder/developers was to limit the Allowable Solutions to the UK, with 45% (10/22) opting for this. Over half (34/60) responses in favour of restricting measures to the locality of the development were from local authorities. The responses in favour of the local approach suggested that administering the scheme on a wider level would be difficult, and that the funding should be put into the area of the development. There was also a view that local areas have their own sets of needs, and as a result they would know how best to administer the fund. There was also a comment

that the house builder would be able to show that they were working with people in the local area to deliver solutions for everybody.

91. Only 7% (9/138) of respondents said they did not want to place spatial criteria on Allowable Solutions. Responses not in favour of any spatial criteria suggested that there could be more cost-effective ways of abating carbon outside of the UK, and, as such, should not be ruled out.

Q16: Do you think that there should be any spatial limitations on Allowable Solutions? If yes, do you think that Allowable Solutions should be limited to projects located in: the locality of the development, England or United Kingdom.											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes - locality		60	2	34	2	4	0	3	3	9	3
Yes - England		31	8	5	2	1	0	5	3	6	1
Yes - UK		38	10	8	3	1	2	2	4	8	0
No		9	2	1	1	1	1	1	0	1	1
Total		138	22	48	8	7	3	11	10	24	5
Yes - locality	35%	43%	9%	71%	25%	57%	0%	27%	30%	38%	60%
Yes - England	18%	22%	36%	10%	25%	14%	0%	45%	30%	25%	20%
Yes - UK	22%	28%	45%	17%	38%	14%	67%	18%	40%	33%	0%
No	5%	7%	9%	2%	13%	14%	33%	9%	0%	4%	20%
Unanswered %	20%										

Table 18: Table of responses to imposing spatial criteria on Allowable Solutions

92. The consultation considered a criteria based approach to determining Allowable Solutions, and suggested the following criteria:

- i. **Complementarity:** projects or measures counted as Allowable Solutions would complement but not displace projects supported separately by other government programmes, this is to avoid double subsidy

- ii. **Market Additionality:** projects or measures would be those which would not otherwise have been brought forward by the market because of delivery barriers;
- iii. **Cost Effectiveness:** This would be achieved by setting a ceiling price ie a house builder would not need to pay above this price. Competition would operate to deliver Allowable Solutions projects and measures below this price;
- iv. **Carbon Impacts:** Allowable Solutions measures would need to be capable of delivering verifiable carbon savings at a cost effective price
- v. **Spatial Criteria:** Allowable Solutions projects should be demonstrably of benefit to the citizens of the United Kingdom, and Allowable Solutions projects should take place in the United Kingdom.

93. The consultation sought views on the how appropriate those criteria were for determining Allowable Solutions.

Question 17: Do you consider that the five criteria set out in paragraph 4.17 of the consultation document are appropriate to determine Allowable Solutions' measures? Yes/No. Please give reasons for your answer.

94. One hundred and thirty-seven people responded to this question, of which 63% (86/137) of replies felt that they were appropriate criteria on which to base Allowable Solutions measures. The responses generally considered the criteria to be correct and appropriate, although there were comments that while appropriate at a high level, work is needed to make the criteria more usable. Some local authorities also added that that whilst they supported the overall approach suggested by the criteria, there should be a more local approach to Allowable Solutions. Seventy-eight per cent (18/23) of house builder responses were in support of the criteria, although there was a feeling that flexibility was of great importance to all parties.

95. Thirty-seven per cent (51/137) respondents felt that the criteria were not appropriate for determining the Allowable Solutions measures. Some said that there they felt the measures did not go far enough whilst others thought the criteria were too over-arching and were not specific enough to deliver results. Concern was expressed that the "cost effectiveness" criteria might not induce competition and could therefore reduce the quality of the scheme. 25 out of the 51 (49%) responses not in favour were from local authorities, most of which considered that there should be a local aspect built into the spatial criteria.

Q17: Do you consider that the five criteria set out in paragraph 4.17 of the consultation document are appropriate to determine Allowable Solutions' measures?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		86	18	22	6	5	3	9	8	15	0
No		51	5	25	3	2	1	2	0	10	3
Total		137	23	47	9	7	4	11	8	25	3
Yes	50%	63%	78%	47%	67%	71%	75%	82%	100%	60%	0%
No	30%	37%	22%	53%	33%	29%	25%	18%	0%	40%	100%
Unanswered %	20%										

Table 19: Table of responses to criteria for Allowable Solutions set out in the consultation document.

96. The government then sought further suggestions for criteria that could be used to develop Allowable Solutions.

Question 18: Are there any other criteria you consider should be used?

97. There were 124 responses to this question, of which 62% (77/124) said they did have other criteria that they thought should be included. Some comments suggested that there should be a timeframe assigned to the delivery of Allowable Solutions. Some thought that Allowable Solutions should be forced to last for a specified period of time, whilst taking into account maintenance costs. Others thought that there should be a hierarchy of preferred Allowable Solutions, for example giving preference to social factors such as reduced on-site emissions, and others thought fabric should be used as a first-resort way of abating carbon. Some responses also suggested that the criteria should explicitly tackle the issue of fuel poverty.

Q18: Are there other criteria that should be used?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	10	32	4	5	3	7	2	11	3
No		47	11	12	3	1	0	3	6	10	1
Total		124	21	44	7	6	3	10	8	21	4
Yes	45%	62%	48%	73%	57%	83%	100%	70%	25%	52%	75%
No	27%	38%	52%	27%	43%	17%	0%	30%	75%	48%	25%
Unanswered %	28%										

Table 20: Table of responses to other criteria that could be used

98. As well as considering the principles for determining Allowable Solutions measures, the consultation went on to invite further evidence about the likely supply of measures.

Question 19: Do you have evidence that you are willing to share with DCLG about the likely supply of Allowable Solutions' measures?

99. A limited number of respondents said that they had data available to use, which the government will consider when formulating the next steps.

100. The consultation went on to discuss the systems of verifying Allowable Solutions. The government's position is that any form of Allowable Solutions adopted by the builder must be subject to robust verification, and envisages a mix of *ex ante* and *ex post* ways of measuring the abatement. *Ex ante* arrangements apply where measures are determined in advance against criteria and are deemed deliver set carbon savings. The Energy Company Obligation is an example of this, where the relevant carbon savings are calculated using a version of the National Calculation Methodology. Measures supported by the Renewable Heat Incentive are another example.

101. The government asked whether a verification system for Allowable Solutions should include arrangement for deeming savings as a form of *ex ante* verification.

Question 20: Do you agree that the verification system for Allowable Solutions should include arrangements for deeming savings as a form of ex ante verification? Yes/No. Please give reasons for your answer

102. There were 122 responses in total to this question, of which 111 (91%) were in support of including arrangements for deemed savings as a form of *ex ante* verification. Many replies stated the importance of the system being robust, but that overall it is a sensible way of measuring carbon abatement. Other comments stated that they thought *ex ante* should not compromise *ex post* verification, as the results need to be tested at a real, practical level. Many responses said that they thought it was easy to understand, but still needed *ex post* verification to ensure that the carbon abatement requirement had been met.

103. Eleven responses were received that were not in favour of supporting *ex ante* arrangements. Some of these responses focussed on the currently unknown nature of how the Allowable Solutions could operate. This means that it is difficult to predict whether or not any of the carbon abatement methods will meet the target. In addition, some stated that it was important to make sure that any methods used in Allowable Solutions do fully deliver the claimed carbon abatement. One response stated that this is as important to gain public buy-in as it is to deliver on the carbon abatement targets.

Q20: Do you agree that the verification system for Allowable Solutions should include arrangements for deeming savings as a form of ex ante verification?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		111	20	40	6	5	3	10	8	18	1
No		11	0	3	1	0	0	0	0	5	2
Total		122	20	43	7	5	3	10	8	23	3
Yes	65%	91%	100%	93%	86%	100%	100%	100%	100%	78%	33%
No	6%	9%	0%	7%	14%	0%	0%	0%	0%	22%	67%
Unanswered %	29%										

Table 21: Table of responses to a verification system including arrangements for deeming savings as a form of *ex ante* verification

104. The government then sought views on how an *ex ante* verification scheme could best operate.

Question 21: Do you have views on how such a system might best operate?

105. Some responses suggested using existing schemes such as the Energy Company Obligation and Woodland Carbon Code as a template for verifying Allowable Solutions. Responses also centred on using independent, qualified people to carry out the calculations to ensure good quality, unbiased measurements. Responses were also received suggesting that the best way of delivering is through Building Regulations, so as to avoid duplication and unnecessary complexity. Some responses also recommended the government put in place prescribed lists of Allowable Solutions that developers could use and know that they will be effective in abating carbon. That said, the responses also indicated that any prescribed list would need to remain flexible to promote developer choice.
106. The consultation then considered using a verification system for Allowable Solutions that includes arrangements for *ex post* verification. *Ex post* verification would involve measuring the delivery of saving. An example of this would be for measuring district heating schemes where estimates of carbon savings could not be provided *ex ante* and would therefore need to be made *ex post*.
107. The government sought responses on whether the verification scheme for Allowable Solutions should include arrangements for *ex post* verification.

Question 22: Do you agree that the verification system for Allowable Solutions should include arrangements for *ex post* verification? Yes/No. Please give reasons for your answer.

108. One Hundred and twenty-nine responses were received in total for this question, of which 101 (78%) were supportive of arrangements for *ex post* verification. There was a consensus among replies that *ex post* verification is essential to ensuring the success of the scheme. Many pointed to the fact that a completed building may not 100% resemble the design stage. This means that the calculations made at the design stage are approximations, and therefore not always accurate. The overwhelming opinion was that there should be *ex post* verification to ensure that the savings predicted are actually achieved.
109. Twenty-two per cent (28/129) of the responses to this question were not in favour of including arrangements for *ex post* verification for Allowable Solutions. One response expressed concern at the complexity of measuring the carbon abatement *ex post*. Others felt that the process of verifying *ex post* should be made as streamlined as possible.

Q22: Do you agree that the verification system for Allowable Solutions should include arrangements for ex post verification?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		101	11	37	7	3	4	8	8	21	2
No		28	13	6	0	3	0	1	0	4	1
Total		129	24	43	7	6	4	9	8	25	3
Yes	59%	78%	46%	86%	100%	50%	100%	89%	100%	84%	67%
No	16%	22%	54%	14%	0%	50%	0%	11%	0%	16%	33%
Unanswered %	25%										

Table 22: Table of responses to using measures to support *ex post* verification of Allowable Solutions

110. The government then invited views on how an *ex post* verification system might best operate.

Question 23: Do you have views on how such a system might operate to provide the best balance of assurance while avoiding overly burdensome reporting and monitoring processes?

111. Responses included those saying was a need for independent verification of carbon savings by a third party, which some respondents felt could be local authorities. Other comments centred on the system being simple and low-cost to administer. It was also pointed out that some standards already exist for verifying greenhouse gas emissions and it was suggested that the government should use these as systems of verification.

112. The consultation noted that verifying the savings from Allowable Solutions is of great importance to the policy and the government considers it essential to ensure its success. However, this raises the question as to what should happen in the event that the expected carbon savings were not delivered. The consultation stated that the government does not believe it is right for a house builder to be responsible for dealing with any short fall. Therefore, responsibility for ensuring delivery, and any actions in the case of non-delivery should fall on the Allowable Solutions provider. There should be some form of sanction for under delivery which again could include some form of financial penalty. Views were requested on the government's position.

Question 24: Should there be sanctions for non-delivery of the expected carbon savings for Allowable Solutions’ measures? Yes/No. If yes, how should those sanctions operate

113. Eighty-nine per cent (115/129) of responses were in favour of some form of sanction for failing to deliver expected carbon savings. Support was received from all categories in excess of 80% in all but two of the categories. Most of the replies agreed with the government’s position that any sanction should be directed at the Allowable Solutions provider, which may not necessarily be the house builder. There were also several responses suggesting that the audit should be carried out by the local authority to ensure impartiality. They said that verifying the Allowable Solutions from developers could cause difficulties when trying to audit their results. The majority of responses implied that some sort of financial sanction was appropriate. It was suggested that the financial penalty could come by way of forcing payment into a fund for any carbon not abated. Requiring a refund to the builder/developer from the Allowable Solutions provider was another way in which missing the target could be sanctioned against.

114. Eleven per cent (14/129) responses were not in favour of sanctions for failure to deliver Allowable Solutions. Written responses pointed to concerns that the whole process could be very complicated, and that placing sanctions on failure to attain the expected carbon savings could put off developers, or Allowable Solutions providers.

Q24: Should there be sanctions for non delivery of the expected carbon savings for Allowable Solutions’ measures?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		115	20	43	8	5	2	10	5	19	3
No		14	2	2	0	1	1	1	1	4	2
Total		129	22	45	8	6	3	11	6	23	5
Yes	67%	89%	91%	96%	100%	83%	67%	91%	83%	83%	60%
No	8%	11%	9%	4%	0%	17%	33%	9%	17%	17%	40%
Unanswered %	25%										

Table 23: Table of responses on whether or not sanctions should be imposed for failing to deliver expected carbon savings for Allowable Solutions measures

Chapter 5: Price Cap

115. Chapter 5 of the consultation document set out the government's view that the pricing of Allowable Solutions is a key consideration for house builders. Understanding the maximum cost is vital for long term planning and long term investments in land.
116. Allowable Solutions could be priced in a number of ways:
- vi. The **market** could be allowed to set its **own price**
 - vii. **Government** could fix a **single price**
 - viii. **Government** could set **ceiling and/or floor prices**.
117. Open and fair competition is one of the government's main considerations for the implementation of Allowable Solutions. It recognises that adopting a market based approach would be a way of achieving this aim, and that setting a single fixed price would remove incentives for efficiency and innovation. However, long-term planning is of key importance to house builders and therefore the government considers that putting a maximum price cap in place is the best approach. This would mean that planning is possible, since house builders would be sure what is the maximum price per tonne of carbon abated, meanwhile encouraging the market to bring forward Allowable Solutions at cheaper rates.
118. The government sought views on this approach:

Question 25: Please provide your view on whether the government should:

- a) **allow the market to set its own price?**
- b) **set a single fixed price?**
- c) **set a ceiling price but enabling Allowable Solutions to be brought forward at lower prices?**
- d) **set a floor price for Allowable Solutions?**

119. One hundred and forty responses were received to this question in total. 59% (82/139) were in favour of placing a cap on prices of Allowable Solutions, 21% (30/139) supported setting a floor price for Allowable Solutions, 10% (14/139) wanted a single fixed price whilst only 9% (13/139) thought that allowing the market to set its own price was appropriate.
120. Comments among those in favour of the price cap echoed the government's view that a ceiling price would give the long-term certainty necessary for planning, with some comments suggesting that the price cap should be set high enough that investment in more expensive technologies becomes viable. There were other comments saying that the Allowable Solutions price cap should be set by the marginal cost of Allowable Solutions, rather than by alternative costs of carbon abatement. Some local authorities also agreed with the government's suggestion that a price cap would give certainty whilst encouraging the market to deliver Allowable Solutions at a lower cost. Another suggestion was to "band" the ceiling

price so that it is set at different levels in different parts of the country. However, one respondent argued that the current low price of the European Union Emissions Trading Scheme is confirmation that the market should not be allowed to set the price.

121. Twenty-two per cent of the responses to this question advocated the use of a floor price. Some of these focussed on the price of carbon in the European Union Emissions Trading Scheme, and said that such a low price would encourage house builders not to be concerned about the level of carbon abatement from their houses. The responses suggested that a price floor would avoid this scenario whilst still enabling the market to come forward to set lower prices than the price cap.

122. The third most popular way of setting the price was to set a single, fixed price for the carbon abatement. Those in favour of this approach pointed to the stability of this option, since all parties would know the cost of carbon abatement. Some also pointed out that there could be a levelling of the playing field, since everyone pays the same for Allowable Solutions.

123. Some of those in favour of the market setting the price suggested that there is inherently no certainty in the house building market, whilst others thought that the market setting its own price would keep the scheme simple.

Q25: Please provide your view on whether the government should:			
	% of all responses	All who answered question	% of all who answered question
(a) let market set own price	8%	13	9%
(b) set single fixed price	8%	14	10%
(c) set a ceiling price	48%	82	59%
(d) set a floor price	17%	30	22%
Unanswered %	19%		

Table 24: Table of responses on how the price of Allowable Solutions should be set

124. The consultation then went on to discuss setting of an appropriate price cap on Allowable Solutions. It stated that the government understood the importance of striking the right balance with the price cap; too low and there is risk Allowable Solutions could not be available at or below the cap price on the scale required. Set too high and it could have an impact on the house building market if costs cannot be absorbed and so could adversely affect the economics of house building, reducing the number houses that are built.

125. The development stage impact assessment published alongside the consultation included a detailed analysis of three price cap options – a central price cap, a low price cap and a high price cap. The government’s position is that the best way to price carbon abatement is through the measure of expenditure per tonne of carbon dioxide (£/tCO₂) abated. Another variable taken into account has to be the length of time over which the carbon has to be abated. 30 years of residual carbon emissions was suggested as the time period for two reasons; 30 years is broadly representative of the lifetime of onsite technologies and the period beyond which the electricity grid will be substantially decarbonised.

126. The central price cap suggested was £60/tCO₂, the low price cap at £36/tCO₂, and the high price cap at £90/tCO₂. Using the carbon compliance levels suggested by the Zero Carbon Hub in its 2011 report to identify the residual emissions to be abated by Allowable Solutions, the following table gives the costs of Allowable Solutions for each of the pricing scenarios.

Maximum Allowable Solutions cost per dwelling				
	Detached	End Terrace/Semi	Mid-Terrace	Flat
Residual CO₂ Emissions (tonnes)	35.4	25.2	25.2	22.9
Low: £36/tCO₂ (£)	1274	907	907	825
Central:£60/tCO₂ (£)	2123	1511	1511	1376
High:£90/tCO₂ (£)	3184	2267	2267	2064

Table 25: Maximum Allowable Solutions costs per dwelling

127. The consultation invited views on the three pricing options set out in the table above, and anticipated a 3 year review of the price cap.

Question 26: Which price cap – low, central or high – do you think should be adopted and why

128. Ninety-two responses were received to this question in total, of which 48% (44/92) supported using the high price cap for Allowable Solutions. The high price cap was not supported by builder/developers however; only 10% (2/20) supported it. Eighteen of the 44 responses came from local authorities but there was a suggestion that the true cost of carbon abatement could be higher and as a result the highest price should be charged. There was also a strong view that by putting in place a high cap, industry would have cause to bring in more cost effective carbon abatement methods for both on-site and off-site, and would therefore discourage simply paying into a fund.

129. The central price cap was supported by 28% (26/92) of responses, and mostly supported it for the reasons set out in the consultation document. That is to say it should be high enough to encourage investment in on-site measures but low enough so as not to stall house building.

130. A low price cap was the overall least supported of the pricing scenarios, 24% (22/92) of responses were in favour of it, but it was the most popular of options among builder/developers, 70% (14/20) of responses from builder/developers were in favour of the low cap. Some of the replies pointed to the current price per tonne of carbon dioxide in the European Union Emissions Trading Scheme as being much lower than the suggested points for the caps. Others expressed concerns that higher prices for carbon abatement could put too much pressure on the house building industry.

Q26: Which price cap - low, central or high - do you think should be adopted and why?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Low		22	14	0	0	1	0	2	0	5	0
Central		26	4	5	2	2	1	2	2	7	1
High		44	2	18	5	1	2	2	5	6	3
Total		92	20	23	7	4	3	6	7	18	4
Low	13%	24%	70%	0%	0%	25%	0%	33%	0%	28%	0%
Central	15%	28%	20%	22%	29%	50%	33%	33%	29%	39%	25%
High	26%	48%	10%	78%	71%	25%	67%	33%	71%	33%	75%
Unanswered %	47%										

Table 26: Responses to the level of price cap that should be set by the government

131. The government then sought views on how the different price caps would affect the extent to which Allowable Solutions projects would be brought forward.

Question 27: What impact do you think the different price caps will have on the extent to which Allowable Solutions projects will be brought forward?

132. Many of the responses felt that a lower price would stifle innovation, and cause there to be less progress in terms of identifying Allowable Solutions measures, as it

would be cheaper simply to pay into a fund, rather than invest in on-site carbon abatement. Conversely, some responses indicated that a higher price would result in better quality carbon abatement projects and would therefore produce better low carbon results.

133. The consultation went on to consider the impact of different caps on the viability of house building across England.

Question 28: What impact do you consider the different price caps will have on the viability of house building and would the impact differ in different parts of England?

134. This question generated a variety of responses, ranging from level of price cap making no difference at all, to making a difference between rural areas and built-up areas like London. Those who thought the different price caps would make very little difference considered the payment to be small in comparison to the selling price of a house. Others considered that any impact could be mitigated by being spread out over developments across the country. This view was put forward by several building occupiers and local authorities.

135. Others however, felt that it could impact on the viability of some housing projects where there is not much headroom for absorbing costs. This view was expressed by several builder/developers and manufacturers amongst others. The cost of delivering carbon abatement projects is already higher across London according to one response, and so adding to this cost could reduce viability. Some others felt that in lower value areas where prices are not rising as fast as in London, viability could be significantly reduced. Some local authorities felt that differing market buoyancy across different areas of the country means that the rates should be determined at a local level.

136. The consultation asked for views on an appropriate review of time in terms of the Allowable Solutions price cap.

Question 29: Is 3 years an appropriate interval to review the price cap? If no, how often do you think it should be reviewed?

137. A total of 108 responses were received to this question, of which 71% (77/108) were in favour of reviewing the price cap every 3 years. Support for this measure among respondents was in excess of 70% in all but the other and specific interest categories, with strong support from both the builder/developers and local authorities. The replies generally agreed that the 3 year time frame lies both in line with developer time scales and with building regulation reviews.

138. Answers not in favour of the 3 year review of the price cap varied, some arguing that the period is too long, and whilst others say the period is too short. Those in

favour of a longer term price cap suggested that it would promote greater stability and long term planning. Those in favour of a shorter term price cap pointed to the fact that at the moment there is not a great deal of evidence to support the price cap level, and that it should therefore be reviewed more often. This would enable a reaction to a potentially rapidly changing market.

Q29: Is 3 years an appropriate interval to review the price cap? If no, how often do you think it should be reviewed?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	15	25	3	3	2	4	6	14	5
No		31	6	10	1	1	0	3	2	8	0
Total		108	21	35	4	4	2	7	8	22	5
Yes	45%	71%	71%	71%	75%	75%	100%	57%	75%	64%	100%
No	18%	29%	29%	29%	25%	25%	0%	43%	25%	36%	0%
Unanswered %	37%										

Table 27: Table of responses to the length of time between reviewing the price cap

139. The consultation then asked whether Allowable Solutions should cover 30 years of residual emissions.

Question 30: Should Allowable Solutions cover 30 years of residual emissions? Yes/No. If not, how many years would be appropriate and why?

140. One hundred and nineteen answers were received to this question and there was a large majority in favour of 30 years of residual emissions being covered by Allowable Solutions. Seventy-three per cent (87/119) responses were in favour and support was strong across all categories, including builder/developers and local authorities, which had 71% (15/21) and 67% (29/43) in favour respectively. Most suggested that the amount of Allowable Solutions payable should be scaled down in line with the decarbonisation of the grid. Although broadly supporting the 30 year time frame, others had reservations that the life-time of a house is much longer than 30 years, and therefore runs the risk of becoming carbon positive once no longer covered by Allowable Solutions.

141. Twenty-seven per cent (32/109) of responses were not in favour of 30 years of residual emissions. Some felt that the time span is too short, since a building built now could be expected to last for 60 years. They therefore suggest that the

Allowable Solutions measures provided only make the new buildings carbon neutral for 30 years. Others felt that this period was too long, and that the figures should be adjusted for savings due to the decarbonisation of the grid. Responses also suggested that the life time of the renewables used in Allowable Solutions should be used, since this is often less than 30 years.

Q30: Should Allowable Solutions cover 30 years of residual emissions?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		87	15	29	6	4	3	6	9	13	2
No		32	6	14	1	1	0	2	0	5	3
Total		119	21	43	7	5	3	8	9	18	5
Yes	51%	73%	71%	67%	86%	80%	100%	75%	100%	72%	40%
No	19%	27%	29%	33%	14%	20%	0%	25%	0%	28%	60%
Unanswered %	31%										

Table 28: Table of responses to Allowable Solutions covering 30 years of residual emissions

142. The consultation then invited views on whether the calculation of the carbon abatement required should take account of decarbonisation of the grid.

Question 31: Do you think the calculation of the carbon abatement required should take account of the expected and actual decarbonisation of the electricity grid? Yes/No. Please give reasons for your answer.

143. The answers to this question were largely split, with a slim majority in favour of incorporating the decarbonisation of the electricity grid in calculations for carbon abatement, at 51% (60/117) and 49% (57/117) not in favour.

144. Eighty-six per cent (19/22) of the builder/developers who responded to this were in favour of including the decarbonisation of the grid in calculations of carbon abatement, along with 100% of property managers. The rest were largely divided. Of those in favour, many suggested that if it were not to follow the price of abating the carbon whilst taking into account the decarbonisation of the grid then it becomes a tax on new development.

145. Those not in favour often cited the uncertainty of the decarbonisation of the electricity grid as being the main reason for not being in favour. Some also said

that the decarbonisation of the grid is a separate issue to that of abating carbon due to the house and the two should not be confused. Others suggested that homes should be built to the Passivhaus standard, meaning that the house uses as little energy as possible.

Q31: Do you think the calculation of the carbon abatement required should take account of the expected and actual decarbonisation of the electricity grid?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		60	19	15	4	1	2	5	4	8	2
No		57	3	24	3	4	0	3	4	13	3
Total		117	22	39	7	5	2	8	8	21	5
Yes	35%	51%	86%	38%	57%	20%	100%	63%	50%	38%	40%
No	33%	49%	14%	62%	43%	80%	0%	38%	50%	62%	60%
Unanswered %	32%										

Table 29: Responses to taking into account decarbonisation of the electricity grid when calculating carbon abatement

Chapter 6: Allowable Solutions Delivery Routes

146. Chapter 6 of the of the consultation document considered in more detail the “menu” of delivery routes for Allowable Solutions described in chapter 2.

- i. undertaking more/all carbon abatement on site.
- ii. meeting the remaining carbon abatement requirement themselves through off-site carbon abatement actions - the “do-it-yourself” option
- iii. contracting with a third party Allowable Solutions private sector provider or work with the local authority for them to deliver carbon abatement measures sufficient to meet the house builders’ obligations.
- iv. making a payment which is directed to a fund which then invests in projects which will deliver carbon abatement on their behalf.

147. Government set out its view that route (i) follows the normal building regulations compliance process as the measures taken can be accommodated within the National Calculation Methodology.

Question 32: Do you agree that route (i) of the house builder ‘menu’ can be accommodated within current building regulations compliance processes.

148. Ninety-one per cent (104/114) of the total responses to this question agreed that this route could be accommodated within the current building regulations compliance processes. This large majority support was reflected across all organisational categories who responded to this question. The support was informed by existing experience of measuring compliance from both developers and local authorities. However it was pointed out that more training would be necessary for building control bodies to carry out measurements effectively. Some also suggested that Allowable Solutions should remain within the Building Regulations.

149. Some of the 9% (10/114) not in favour felt that the issue was best dealt with through the planning system, rather than through the Building Regulations. Some also felt that option is not technically feasible, and as a result is not an option that they support. Another stated that some of the Allowable Solutions could fall outside of the Building Regulations and as a result could not be covered.

Q32: Do you agree that route (i) of the house builder 'menu' can be accommodated within current Building Regulations compliance processes? Please give reasons for your answer											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		104	21	32	5	4	4	10	9	16	3
No		10	1	4	0	2	0	1	0	2	0
Total		114	22	36	5	6	4	11	9	18	3
Yes	60%	91%	95%	89%	100%	67%	100%	91%	100%	89%	100%
No	6%	9%	5%	11%	0%	33%	0%	9%	0%	11%	0%
Unanswered %	34%										

Table 30: Table of responses to whether route i of the house builder menu can be accommodated within current building regulations compliance processes

150. The consultation suggested that for some Allowable Solutions measures taken through route (ii), compliance could also be checked through the standard building control processes, where the Allowable Solutions measure can be accommodated within the National Calculation Methodology and can be checked by building control. The consultation then invited views on this.

Question 33: What kinds of Allowable Solutions measures undertaken under route ii of the house builder menu do you consider could be accommodated within current building regulations compliance processes?

151. Responses suggested that Allowable Solutions undertaken using route ii could be accommodated within the current Building Regulations compliance processes if verified and certification was provided to Building Control. Others were more specific and pointed to the use of combined heat and power, renovating existing properties and district heating. Some felt that building to higher standards with extant planning permission would also be a way working within the current Building Regulations process.

152. Several responses said option ii should not be allowed. They thought it would be difficult to find where the banked carbon could have come from and as a result it would not be easy to calculate the carbon abated.

153. The consultation then went on to discuss the option of contracting with a third party. The government envisages arrangements whereby house builders might contract with a third party to deliver Allowable Solutions. The government described three approaches to putting in place a third part system:

- i. a direct transaction with a third party (bilateral arrangement)
- ii. contracting through a matching service
- iii. contracting through a brokerage service.

154. The direct transaction approach describes a situation where the house builder and an Allowable Solutions provider can negotiate bilaterally and agree a contract for the delivery of a project. This could be either through a one-off transaction or a longer term arrangement. It is envisaged largely that the arrangement will be with a third party from the private sector, however the government believes there is no reason to exclude local authorities from the process.

155. The government asked for views on permitting house builders to enter into a direct transaction with third parties, including local authorities.

Question 34: Do you think that house builders should be able to enter into a direct transaction with third parties, including local authorities, to deliver Allowable Solutions?

156. This question facilitated a strong response from the consultation, and 96% (133/139) of the respondents said they agreed that house builders should be able to enter direct transactions with third parties. Each of the categories (except building occupiers) gave support in excess of 90%. There was a consensus that this would maintain flexibility for the house builders and promote competition among Allowable Solutions providers. Some responses also said the option would encourage cost-effectiveness for the house builder and hand over responsibility for Allowable Solutions to specialist providers and give the project a better chance of success. There were those who added a caveat where although they supported the option, contracts should only be allowed between a house builder and a local authority.

157. Some of those against allowing contracts with third parties said they were concerned that there could be added complexities. Others suggested that local authorities should have first refusal on being Allowable Solutions providers, whilst some said that only local authorities should be permitted to be Allowable Solutions providers. Some also said that off-setting of carbon through Allowable Solutions could be difficult to verify.

Q34: Do you think that house builders should be able to enter into a direct transaction with third parties, including local authorities, to deliver Allowable Solutions?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		133	22	46	7	6	4	12	11	22	3
No		6	1	2	0	0	0	0	0	2	1
Total		139	23	48	7	6	4	12	11	24	4
Yes	77%	96%	96%	96%	100%	100%	100%	100%	100%	92%	75%
No	3%	4%	4%	4%	0%	0%	0%	0%	0%	8%	25%
Unanswered %	19%										

Table 31: Table of responses to allowing house builders to enter into direct transactions with third parties

158. The government then consulted on how this scheme might best operate.

Question 35: How might that approach operate?

159. This question received a number of suggestions. Most centred on having a contractual arrangement between a house builder and Allowable Solutions provider with a form of verification and certification. Some suggested a form of regulatory body who could then audit Allowable Solutions providers who could monitor, whilst some suggested a list of locally approved Allowable Solutions providers. Others suggested a green-deal type approach whilst some suggested the option of buying carbon credits, an approach used in the Woodland Carbon Code.

160. The government then asked any of the respondents had any further evidence of how such a system might work.

Question 36: Do you have any evidence of such a system might work which could be drawn upon in developing such an arrangement?

161. Some responses said that similar research had been carried out by companies on behalf of local authorities and could be used. Others suggested that the Woodland Carbon Code could be used. Another respondent said that they had already carried out retrofit carbon abatement before and had used some links that

could be helpful. Others suggest the models used by Robust Details could be used for Allowable Solutions.

162. The consultation went on to discuss the matching and or brokerage way of contracting with a third party. The principle set out in the consultation is that Allowable Solutions providers would place their Allowable Solutions projects on a list and house builders would be able to simply choose an option from it. The government assumes that there would be a fee for joining the register, and then for a transaction fee for each time the register is used.

163. The consultation suggested there is an analogy with the Robust Details Limited scheme whereby house builders can use approved products as a way of demonstrating compliance, and so similarly, house builders could buy Allowable Solutions packages and demonstrate compliance.

164. The government sought views on the provision of a matching service

Question 37: Do you agree that provision of a matching service should be considered?

165. One hundred and fourteen responses were received in total, of which 82 (72%) said a matching service should be considered. It had support across all of the respondent categories apart from the building occupier. Eighty-six per cent (19/22) of builder/developers said that they would favour a matching service. The local authorities support came from a smaller proportion of responses, 59% (23/39) were in favour. Responses in favour suggested that it would help to deliver large scale projects and to maintain simplicity for house builders when choosing Allowable Solutions. Some again suggested that local projects should get first priority on the list, whilst others said that although it should be considered, the list might be made redundant where local authorities have good schemes in place already.

166. Half (16/32) responses against the provision of a matching service came from local authorities. There were concerns expressed that using a matching service would encourage people to off-set using the cheapest form of carbon abatement possible, which may not always be appropriate or effective. Views were also opposed to allowing charges for using the list, which could put people off using it. Several replies expressed concern that it might mean certification is no longer required, and they considered it should be; others felt that the scheme could not act locally.

Q37: Do you agree that provision of a matching service should be considered?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		82	19	23	5	5	4	9	5	11	1
No		32	3	16	1	0	0	1	2	7	2
Total		114	22	39	6	5	4	10	7	18	3
Yes	48%	72%	86%	59%	83%	100%	100%	90%	71%	61%	33%
No	19%	28%	14%	41%	17%	0%	0%	10%	29%	39%	67%
Unanswered %	34%										

Table 32: Table of responses to considering a matching service

167. The government then asked for any views on how such a system might work in practice.

Question 38: Do you have views on how such a system might work to assist house builders?

168. Some responses suggested that simplicity is the most important factor for house builders, with others suggesting it should be web-based. An idea was the solutions are put onto a government website, but only after they have been verified. This would maintain independence and promote confidence within industry.

169. The consultation then asked the respondents to give any evidence of existing schemes that could be used to develop a matching arrangement.

Question 39: Do you have any evidence of existing matching services which could be drawn on in developing such an arrangement?

170. Some suggested a method similar to the Energy Company Obligation (ECO) brokerage could be used, although the responses thought that this system is imperfect. Replies also suggested that the public education sector could also act as a template. Reference was also made to some section 106 arrangements, which have matching services built into them. There was also a mention of Markit and the work of setting up the Carbon Reporting Framework by Building Research Establishment.

171. The consultation went on to consider a brokerage system and the Energy Company Obligation brokerage system was suggested as an example. This was set up to bring energy suppliers together to meet carbon reduction obligations and potential suppliers of Energy Company Obligation qualifying actions. Suppliers of qualifying actions put forward their qualifying actions and the energy suppliers bid against them. The brokerage platform service is run for government by an outside supplier and Ofgem sets out the rules under which the Energy Company Obligation brokerage system works.

172. The government consulted views on the provision of a brokerage system for Allowable Solutions.

Question 40: Do you agree that provisions of a brokerage service should be considered? Yes/No. Please give reasons for your answer.

173. Sixty-one per cent (66/108) responses to this question were in favour of the provision of a brokerage system, whereas 39% (42/108) responses were not in favour of the provision of a brokerage system.

174. Some of those in favour, suggested that the brokerage or matching service could be run by a not-for-profit sector. Another commented that the brokerage scheme would improve liquidity in the sector. There was also a sense that a brokerage service would increase competition in the sector, and encourage small projects to go ahead as well as larger ones. There was a strong view that using a brokerage system would be a simple option for the house builder, and allow them to focus on their developments whilst abating carbon in the most cost effective way.

175. However, there were views that a brokerage system could increase costs to house builders and add a level of bureaucracy. Others feel it should be compulsory for the scheme to involve local authorities. There was also a suggestion that the brokerage will be making money out of Allowable Solutions, rather than investing all of the money in abating carbon. Some also thought that small Allowable Solutions providers could lose out in a brokerage scheme.

Q40: Do you agree that provision of a brokerage service should be considered?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		66	15	17	3	5	3	3	5	12	3
No		42	7	17	3	0	0	5	1	8	1
Total		108	22	34	6	5	3	8	6	20	4
Yes	38%	61%	68%	50%	50%	100%	100%	38%	83%	60%	75%
No	24%	39%	32%	50%	50%	0%	0%	63%	17%	40%	25%
Unanswered %	37%										

Table 33: Table of responses to considering a brokerage system

176. The consultation went on to ask views on how the system might work in practice.

Question 41: Do you have views on how such a system might work to assist house builders?

177. Some responses again felt that the best approach would be a simple, web-based approach, or by using the same approach as the Energy Company Obligation. Again a simple, easy-to-use system was championed by respondents to the question, and could work by local authorities working together with industry.

178. The consultation then asked for evidence from the respondents of any existing brokerage systems that could be used towards developing a brokerage for Allowable Solutions.

Question 42: Do you have any evidence of existing brokerage services which could be drawn on in developing such an arrangement?

179. Almost all of the responses to this question suggested using the Energy Company Obligation as a starting point, and some suggested using the work of the Building Research Establishment as a reference point for carbon reporting.

180. The consultation then moved on to discussing the fund option described in the delivery options of Allowable Solutions. The government suggests that under this

option, a “funder of funds” would be established, which is similar to the model adopted by the Green Investment Bank for investments in non-domestic energy efficiency projects.

181. The consultation suggested that an Allowable Solutions fund could leverage additional private sector funds and so incentivise potential carbon abatement projects. For any fund approach, a collection system for the monies raised would need to be established, which the government acknowledges would need to be established at a national level.

182. The consultation sought views on how whether or not the provision of a fund approach should be considered

Question 43: Do you agree that provision of a fund approach should be considered? Yes/No. Please give reasons for your answer.

183. This question received 114 responses in total, of which 92 (81%) were in favour of the provision of a fund approach. Some of the positive responses felt that the fund option would act as a liquidity provider to the Allowable Solutions market, and would ensure that good carbon abatement projects could get started. It was viewed very positively by builder/developers, and had a 95% (20/21) approval rating, with many citing it as the simplest and most cost effective way of abating carbon. There were those who said that this should be administered by an impartial service and used as a buyer of last resort. Several local authorities also commented that this should be used to fund local projects only, so as not to lose focus on the localism agenda set out by government.

184. Those not in favour were concerned about the fund approach adding a level of complexity, and reducing transparency of the Allowable Solutions. Others felt that the Green Investment Bank style model is set up to make money, and is therefore against the principles of Allowable Solutions. Concerns were also expressed that it might be difficult to avoid double counting of carbon savings. There were also concerns that it could cause an increase in the time taken to deliver carbon savings, and could result in a delay in sign off of carbon abatement projects. Some local authorities expressed concerns about the projects not being delivered locally, and that it could be perceived as a tax which is not given back into projects for successful local authorities, as well as having high administration costs.

Q43: Do you agree that provision of a fund approach should be considered?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		92	20	29	5	5	4	6	6	16	1
No		22	1	8	1	0	0	3	1	6	2
Total		114	21	37	6	5	4	9	7	22	3
Yes	53%	81%	95%	78%	83%	100%	100%	67%	86%	73%	33%
No	13%	19%	5%	22%	17%	0%	0%	33%	14%	27%	67%
Unanswered %	34%										

Table 34: Table of responses to considering a fund option

185. The government then asked for views on how such a system may work in practice.

Question 44: Do you have views on how such a system might work to assist house builders?

186. Some respondents commented that an impartial independent bank or fund manager should be used, meanwhile others suggested paying directly to the local authorities, in order to maximise simplicity. Some also felt that local authority managed funds should also be made available to increase competition and house builder choice.

187. The government then invited any evidence from existing schemes that could potentially be used in the development of a fund for Allowable Solutions.

Question 45: Do you have any evidence of existing funds which could be drawn on in developing such an arrangement?

188. Some responses drew attention to existing work done by some local authorities, who have experience of administering carbon funds. Others have suggested that the Green Investment Bank could be used as a model. Mention was made of several companies and not-for-profit organisations that already offer fund management services for this purpose.

189. The consultation then considered whether house builders would prefer to give larger payments into a fund to encourage a return, rather than making a smaller one off payment.

Question 46: If invested in a fund, Allowable Solutions payment capital and profits can both be reinvested on a revolving fund basis to increase long-term potential carbon savings. However commercial returns and/or capital could be given back to house builders rather than reinvested, but this would mean less carbon being abated and hence a higher upfront investment would be required to meet the house builder’s zero carbon homes obligation. Is there any interest from house builders in investing into a fund which abates carbon and makes a return rather than making a smaller one-off payment?

190. This question gave a mixed response, with most people (53% - 18/34) saying there was no appetite from house builders to pay more into a fund. That said, of the 20 builder/developers who responded to the question, 12 said they would be interested, indicating 55% of those who replied would be interested in paying into a fund to make a return. Most responses indicated that there would be some support, but at present not enough information is available to say one way or the other. There was also concern expressed that this could run into issues with taxation.

191. Those who answered no suggested that there could be an issue with complexity and that the funds would be better used to press down price of carbon, and so reduce the cost to house builders.

Q46: Is there any interest from house builders in investing into a fund which abates carbon and also makes a return rather than making a smaller one-off payment?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		16	11	1	0	0	1	1	1	1	0
No		18	9	4	0	0	0	1	1	2	1
Total		34	20	5	0	0	1	2	2	3	1
Yes	9%	47%	55%	20%	0%	0%	100%	50%	50%	33%	0%
No	10%	53%	45%	80%	0%	0%	0%	50%	50%	67%	100%
Unanswered %	80%										

Table 35: Table of responses to creating a fund that abates carbon but also gives a return on investments

192. The government then summarised the options, comparing them against a set of qualitative criteria in a table:

	House Builder DIY	Bilateral	Matching / brokerage	Fund
Comprehensive Coverage	Yes	Yes	Yes	Yes
Administrative cost efficiency	Reduced search and transaction costs as undertaken 'in house'	Search and transaction costs for house builders	Transaction costs for matching and brokerage system would need to be covered	Collection and disbursement costs would need to be covered
Simplicity for house builders	House builder has control of measures	House builder needing to invest in search and contracting with Allowable Solutions' providers	House builder relies on matching service which does the work in identifying potential suitable measures or projects.	House builder makes payment and has no further involvement
Incentivising cost effective Allowable Solutions	Incentive for house builder to bring forward their own cost effective measures	Market based approach so incentive for Allowable Solutions' providers to bring forward lower cost projects	Market based approach so incentive for Allowable Solutions' providers to bring forward lower cost projects	Fund would compete for capital with other Allowable Solutions, so incentive to reduce cost of carbon savings over time
Ability to bring forward projects	Assumes house builder brings forward their own measures	Dependent on market bringing forward projects	Dependent on market bringing forward projects. Potential opportunity to leverage extra funds.	Opportunity to invest in large scale projects of national importance, in particular by leveraging extra funds

Table 36: Table summarising the options for house builders

193. The consultation then sought views on its assessment of the delivery options:

Question 47: What are your views on the assessment of the delivery options set out in the table?

194. Overall the comments were that the table was generally accurate, but did not provide comments on the negatives of any of the options. There was also the concern that some of the details may be a bit superficial, and some options have not been assessed. There was also a concern that some of the summaries would change dramatically if local authorities were used rather than the private sector, and that the local authority approach had been ruled out in the third section.

195. The government then sought views on whether or not there were any other considerations it should be taking into account.

Question 48: Are there other considerations which government should be taking into account?

196. Some responses felt that there should be a system for auditing the scheme. There was also a mention that the government's localism agenda should not be forgotten whilst designing Allowable Solutions, as well as not forgetting the social goods around Allowable Solutions. There was a comment that any delivery options should take account of the administrative costs of the Allowable Solutions measures. Some answers also felt that the government should consider the decarbonisation of the grid as a factor when designing Allowable Solutions. Some builder/developers also stated that the effects of Fabric Energy Efficiency Standard and Carbon Compliance should also be taken on board.

197. The government was keen to know which of the suggested options was the preferred delivery route for the builder/developers.

Question 49: In light of this analysis what is your preferred delivery route? Please provide reasons for your answer.

198. Sixty-three responses were received to this question, of which the fund was a clear favourite, with 43% (27/63) of responses saying that the fund is their choice. Each of the other options received 19% (12/63) of the total responses in favour of using it as their preferred delivery response. Most of those in favour of the fund suggested that its simplicity that made it their favourite.

Q49: In the light of this analysis what is your preferred delivery route?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
DIY		12	2	3	2	1	1	1	0	1	1
Bilateral		12	1	6	0	0	0	2	0	3	0
Brokerage		12	0	5	2	1	0	0	0	3	1
Fund		27	6	12	0	2	0	2	2	3	0
Total		63	9	26	4	4	1	5	2	10	2
DIY	7%	19%	22%	12%	50%	25%	100%	20%	0%	10%	50%
Bilateral	7%	19%	11%	23%	0%	0%	0%	40%	0%	30%	0%
Brokerage	7%	19%	0%	19%	50%	25%	0%	0%	0%	30%	50%
Fund	16%	43%	67%	46%	0%	50%	0%	40%	100%	30%	0%
Unanswered %	63%										

Table 37: Responses to preferred delivery routes

Chapter 7: Next Steps

199. Chapter 7 noted that dependent on the outcome of the consultation, the government would expect to develop a detailed design model for allowable Solutions that would be subject to further consultation. It stated that the government recognises that Allowable Solutions is a completely new concept for the house building industry and sought views on what may be an appropriate familiarisation period.

Question 50: What do you think an appropriate familiarisation period might be for industry and appropriate transition arrangements for Allowable Solutions? Please provide reasons for your answer.

200. The respondents gave a range of familiarisation periods that they felt were appropriate. 1 year was the most popular with 30 responses thinking it was appropriate; more than one year was second most popular, with 25 thinking it was an appropriate amount of time and less than one year was the least popular, with 16 people feeling it was appropriate. Those wanting one year or more tended to focus on the fact that Allowable Solutions is a relatively unknown quantity, whereas those in favour of a period less than one year base this on the fact that industry has known about Allowable Solutions for a long time, and has already had time to prepare.

201. The final stage of the consultation focussed on the impact assessment, and asked for any additional evidence that could be used to further develop it.

Question 51: A development stage impact assessment accompanies this consultation document. Do you have any views on the analysis, costs and benefits presented in that impact assessment?

202. Overall, the answers suggested that the impact assessment was appropriate, and had a good level of detail associated with it. However, concerns were expressed that there was no indication of how Allowable Solutions would feed into a wider emissions debate, and that further research should be done on the liquidity of carbon abatement projects before setting any final caps. Comment made also pointed to the fact that the impact assessment should contain real data from the Energy Company Obligation, rather than using data estimates from its impact assessment. There was also a concern that some of the data is out of date, and that DCLG could use the data that Department of Energy and Climate Change (DECC) uses for its carbon calculations. Some also suggested that the impact assessment does not give the most cost effective way of saving on carbon.

Appendix A: List of Data Tables

Chapter 1: fabric energy efficiency and carbon compliance

Q1: Do you agree that the government should base its consideration for energy performance standards for 2016 on the fabric energy efficiency and carbon compliance standard recommended by the Zero Carbon Hub and endorsed by the government in May 2011?											
	% of all responses	who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		93	8	35	7	7	1	10	6	18	1
No		40	14	10	2	1	0	2	2	6	3
Total		133	22	45	9	8	1	12	8	24	4
Yes %	54%	70%	36%	78%	78%	88%	100%	83%	75%	75%	25%
No %	23%	30%	64%	22%	22%	13%	0%	17%	25%	25%	75%
Unanswered %	23%										

Chapter 2: design principles for allowable solutions

Q3: Do you agree with these design principles for Allowable Solutions set out in paragraph 2.4 (a to e) of the consultation document? If no, with which do you disagree and why?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Agree with all		92	18	28	6	4	2	10	8	16	0
Disagree with one/more		43	5	16	2	3	1	1	2	9	4
Total		135	23	44	8	7	3	11	10	25	4
agree all	53%	68%	78%	64%	75%	57%	67%	91%	80%	64%	0%
disagree one or more	25%	32%	22%	36%	25%	43%	33%	9%	20%	36%	100%
Unanswered %	22%										

Disagree with:	% of all responses	All who answered question	% of those who disagree with one/more design principle
a (house builders decide how they meet obligation)	19%	33	77%
b (framework which gives choice and flexibility)	14%	24	56%
c (carbon savings should be additional)	9%	16	37%
d (Allowable Solutions deliver cost effective carbon savings)	15%	25	58%
e (minimise the administration costs)	8%	13	30%

Q5: Do you agree that house builders should have a variety of routes, as set out in paragraph 2.7 of the consultation document, to meet their zero carbon homes obligations?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		116	21	32	7	6	3	12	11	22	2
No		32	3	17	2	1	0	1	1	4	3
Total		148	24	49	9	7	3	13	12	26	5
Yes	67%	78%	88%	65%	78%	86%	100%	92%	92%	85%	40%
No	19%	22%	13%	35%	22%	14%	0%	8%	8%	15%	60%
Unanswered %	14%										

Q6: Do you agree or disagree with any of the routes ((i) to (iv)) identified in paragraph 2.7 of the consultation document and do you have other routes to suggest.

	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Agree with all		85	19	18	6	6	1	10	9	15	1
Disagree with one/more		53	3	29	2	1	1	1	3	9	4
Total		138	22	47	8	7	2	11	12	24	5
Agree with all	49%	62%	86%	38%	75%	86%	50%	91%	75%	63%	20%
Disagree with one/more	31%	38%	14%	62%	25%	14%	50%	9%	25%	38%	80%
Unanswered %	20%										

Disagree with:	% of all responses	All who answered question	% of those who disagree with one/more delivery route
(i) more on site	5%	8	15%
(ii) house builder DIY	22%	37	70%
(iii) contract with 3rd party	17%	29	55%
(iv) fund	16%	27	51%

Q8: Do you think the current market could scale up to meet additional demand for carbon abatement?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	6	29	3	4	1	8	6	16	4
No		22	11	2	3	1	1	1	0	3	0
Total		99	17	31	6	5	2	9	6	19	4
Yes	45%	78%	35%	94%	50%	80%	50%	89%	100%	84%	100%
No	13%	22%	65%	6%	50%	20%	50%	11%	0%	16%	0%
Unanswered %	42%										

Chapter 3: other delivery options considered

Q9: Do you agree that the government should set out a national policy framework for Allowable Solutions and not leave it to local authorities to decide locally?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		114	21	32	8	6	4	10	9	21	3
No		30	1	15	1	1	0	2	2	5	3
Total		144	22	47	9	7	4	12	11	26	6
Yes	66%	79%	95%	68%	89%	86%	100%	83%	82%	81%	50%
No	17%	21%	5%	32%	11%	14%	0%	17%	18%	19%	50%
Unanswered %	16%										

Q10: Do you agree that a mandated local approach to the delivery Allowable Solutions has no role in this national policy for the reasons set out in paragraphs 3.13 to 3.18 of the consultation document?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		88	21	24	4	3	2	8	6	19	1
No		45	3	22	2	2	1	2	3	6	4
Total		133	24	46	6	5	3	10	9	25	5
Yes	51%	66%	88%	52%	67%	60%	67%	80%	67%	76%	20%
No	26%	34%	13%	48%	33%	40%	33%	20%	33%	24%	80%
Unanswered %	23%										

Chapter 4: allowable solutions measures and verification

Q11: Should Allowable Solutions be concentrated on particular types of measure?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		35	4	12	1	4	2	3	3	6	0
No		99	20	33	8	2	1	9	5	18	3
Total		134	24	45	9	6	3	12	8	24	3
Yes	20%	26%	17%	27%	11%	67%	67%	25%	38%	25%	0%
No	58%	74%	83%	73%	89%	33%	33%	75%	63%	75%	100%
Unanswered %	22%										

Q12: Do you think that Allowable Solutions should be confined to only to measures in the non traded sector of the economy?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		34	4	11	2	3	1	4	2	6	1
No		85	18	24	5	3	2	8	9	14	2
Total		119	22	35	7	6	3	12	11	20	3
Yes	20%	29%	18%	31%	29%	50%	33%	33%	18%	30%	33%
No	49%	71%	82%	69%	71%	50%	67%	67%	82%	70%	67%
Unanswered %	31%										

Q13: Should measures in the traded sector be supported by Allowable Solutions, provided that they meet the appropriate criteria?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		84	19	27	3	3	2	8	9	12	1
No		28	2	8	3	2	0	3	1	7	2
Total		112	21	35	6	5	2	11	10	19	3
Yes	49%	75%	90%	77%	50%	60%	100%	73%	90%	63%	33%
No	16%	25%	10%	23%	50%	40%	0%	27%	10%	37%	67%
Unanswered %	35%										

Q14: Do you think that Allowable Solutions should be confined to measures in the built environment?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		80	8	27	5	5	3	9	9	14	0
No		65	16	22	4	2	2	3	2	10	4
Total		145	24	49	9	7	5	12	11	24	4
Yes	47%	55%	33%	55%	56%	71%	60%	75%	82%	58%	0%
No	38%	45%	67%	45%	44%	29%	40%	25%	18%	42%	100%
Unanswered %	16%										

Q15: Do you think that measures should just be confined to residential buildings or should also cover non domestic buildings?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Residential only		10	1	4	2	0	0	1	0	2	0
Residential & non-dom		134	23	47	7	7	4	11	11	19	5
Total		144	24	51	9	7	4	12	11	21	5
Residential only	6%	7%	4%	8%	22%	0%	0%	8%	0%	10%	0%
Residential & non-dom	78%	93%	96%	92%	78%	100%	100%	92%	100%	90%	100%
Unanswered %	16%										

Q16: Do you think that there should be any spatial limitations on Allowable Solutions? If yes, do you think that Allowable Solutions should be limited to projects located in: the locality of the development, England or United Kingdom.											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes - locality		60	2	34	2	4	0	3	3	9	3
Yes - England		31	8	5	2	1	0	5	3	6	1
Yes - UK		38	10	8	3	1	2	2	4	8	0
No		9	2	1	1	1	1	1	0	1	1
Total		138	22	48	8	7	3	11	10	24	5
Yes - locality	35%	43%	9%	71%	25%	57%	0%	27%	30%	38%	60%
Yes - England	18%	22%	36%	10%	25%	14%	0%	45%	30%	25%	20%
Yes - UK	22%	28%	45%	17%	38%	14%	67%	18%	40%	33%	0%
No	5%	7%	9%	2%	13%	14%	33%	9%	0%	4%	20%
Unanswered %	20%										

Q17: Do you consider that the five criteria set out in paragraph 4.17 of the consultation document are appropriate to determine Allowable Solutions' measures?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		86	18	22	6	5	3	9	8	15	0
No		51	5	25	3	2	1	2	0	10	3
Total		137	23	47	9	7	4	11	8	25	3
Yes	50%	63%	78%	47%	67%	71%	75%	82%	100%	60%	0%
No	30%	37%	22%	53%	33%	29%	25%	18%	0%	40%	100%
Unanswered %	20%										

Q18: Are there other criteria that should be used?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	10	32	4	5	3	7	2	11	3
No		47	11	12	3	1	0	3	6	10	1
Total		124	21	44	7	6	3	10	8	21	4
Yes	45%	62%	48%	73%	57%	83%	100%	70%	25%	52%	75%
No	27%	38%	52%	27%	43%	17%	0%	30%	75%	48%	25%
Unanswered %	28%										

Q20: Do you agree that the verification system for Allowable Solutions should include arrangements for deeming savings as a form of ex ante verification?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		111	20	40	6	5	3	10	8	18	1
No		11	0	3	1	0	0	0	0	5	2
Total		122	20	43	7	5	3	10	8	23	3
Yes	65%	91%	100%	93%	86%	100%	100%	100%	100%	78%	33%
No	6%	9%	0%	7%	14%	0%	0%	0%	0%	22%	67%
Unanswered %	29%										

Q22: Do you agree that the verification system for Allowable Solutions should include arrangements for ex post verification?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		101	11	37	7	3	4	8	8	21	2
No		28	13	6	0	3	0	1	0	4	1
Total		129	24	43	7	6	4	9	8	25	3
Yes	59%	78%	46%	86%	100%	50%	100%	89%	100%	84%	67%
No	16%	22%	54%	14%	0%	50%	0%	11%	0%	16%	33%
Unanswered %	25%										

Q24: Should there be sanctions for non delivery of the expected carbon savings for Allowable Solutions' measures?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		115	20	43	8	5	2	10	5	19	3
No		14	2	2	0	1	1	1	1	4	2
Total		129	22	45	8	6	3	11	6	23	5
Yes	67%	89%	91%	96%	100%	83%	67%	91%	83%	83%	60%
No	8%	11%	9%	4%	0%	17%	33%	9%	17%	17%	40%
Unanswered %	25%										

Chapter 5: price cap

Q25: Please provide your view on whether the government should:			
	% of all responses	All who answered question	% of all who answered question
(a) let market set own price	8%	13	9%
(b) set single fixed price	8%	14	10%
(c) set a ceiling price	48%	82	59%
(d) set a floor price	17%	30	22%
Unanswered %	19%		

Q26: Which price cap - low, central or high - do you think should be adopted and why?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Low		22	14	0	0	1	0	2	0	5	0
Central		26	4	5	2	2	1	2	2	7	1
High		44	2	18	5	1	2	2	5	6	3
Total		92	20	23	7	4	3	6	7	18	4
Low	13%	24%	70%	0%	0%	25%	0%	33%	0%	28%	0%
Central	15%	28%	20%	22%	29%	50%	33%	33%	29%	39%	25%
High	26%	48%	10%	78%	71%	25%	67%	33%	71%	33%	75%
Unanswered %	47%										

Q29: Is 3 years an appropriate interval to review the price cap? If no, how often do you think it should be reviewed?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		77	15	25	3	3	2	4	6	14	5
No		31	6	10	1	1	0	3	2	8	0
Total		108	21	35	4	4	2	7	8	22	5
Yes	45%	71%	71%	71%	75%	75%	100%	57%	75%	64%	100%
No	18%	29%	29%	29%	25%	25%	0%	43%	25%	36%	0%
Unanswered %	37%										

Q30: Should Allowable Solutions cover 30 years of residual emissions?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		87	15	29	6	4	3	6	9	13	2
No		32	6	14	1	1	0	2	0	5	3
Total		119	21	43	7	5	3	8	9	18	5
Yes	51%	73%	71%	67%	86%	80%	100%	75%	100%	72%	40%
No	19%	27%	29%	33%	14%	20%	0%	25%	0%	28%	60%
Unanswered %	31%										

Q31: Do you think the calculation of the carbon abatement required should take account of the expected and actual decarbonisation of the electricity grid?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		60	19	15	4	1	2	5	4	8	2
No		57	3	24	3	4	0	3	4	13	3
Total		117	22	39	7	5	2	8	8	21	5
Yes	35%	51%	86%	38%	57%	20%	100%	63%	50%	38%	40%
No	33%	49%	14%	62%	43%	80%	0%	38%	50%	62%	60%
Unanswered %	32%										

Chapter 6: allowable solutions delivery routes

Q32: Do you agree that route (i) of the house builder 'menu' can be accommodated within current Building Regulations compliance processes? Please give reasons for your answer											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		104	21	32	5	4	4	10	9	16	3
No		10	1	4	0	2	0	1	0	2	0
Total		114	22	36	5	6	4	11	9	18	3
Yes	60%	91%	95%	89%	100%	67%	100%	91%	100%	89%	100%
No	6%	9%	5%	11%	0%	33%	0%	9%	0%	11%	0%
Unanswered %	34%										

Q34: Do you think that house builders should be able to enter into a direct transaction with third parties, including local authorities, to deliver Allowable Solutions?

	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		133	22	46	7	6	4	12	11	22	3
No		6	1	2	0	0	0	0	0	2	1
Total		139	23	48	7	6	4	12	11	24	4
Yes	77%	96%	96%	96%	100%	100%	100%	100%	100%	92%	75%
No	3%	4%	4%	4%	0%	0%	0%	0%	0%	8%	25%
Unanswered %	19%										

Q37: Do you agree that provision of a matching service should be considered?

	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		82	19	23	5	5	4	9	5	11	1
No		32	3	16	1	0	0	1	2	7	2
Total		114	22	39	6	5	4	10	7	18	3
Yes	48%	72%	86%	59%	83%	100%	100%	90%	71%	61%	33%
No	19%	28%	14%	41%	17%	0%	0%	10%	29%	39%	67%
Unanswered %	34%										

Q40: Do you agree that provision of a brokerage service should be considered?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		66	15	17	3	5	3	3	5	12	3
No		42	7	17	3	0	0	5	1	8	1
Total		108	22	34	6	5	3	8	6	20	4
Yes	38%	61%	68%	50%	50%	100%	100%	38%	83%	60%	75%
No	24%	39%	32%	50%	50%	0%	0%	63%	17%	40%	25%
Unanswered %	37%										

Q43: Do you agree that provision of a fund approach should be considered?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		92	20	29	5	5	4	6	6	16	1
No		22	1	8	1	0	0	3	1	6	2
Total		114	21	37	6	5	4	9	7	22	3
Yes	53%	81%	95%	78%	83%	100%	100%	67%	86%	73%	33%
No	13%	19%	5%	22%	17%	0%	0%	33%	14%	27%	67%
Unanswered %	34%										

Q46: Is there any interest from house builders in investing into a fund which abates carbon and also makes a return rather than making a smaller one-off payment?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
Yes		16	11	1	0	0	1	1	1	1	0
No		18	9	4	0	0	0	1	1	2	1
Total		34	20	5	0	0	1	2	2	3	1
Yes	9%	47%	55%	20%	0%	0%	100%	50%	50%	33%	0%
No	10%	53%	45%	80%	0%	0%	0%	50%	50%	67%	100%
Unanswered %	80%										

Q49: In the light of this analysis what is your preferred delivery route?											
	% of all responses	All who answered question	Builders / Developers	Local Authority	Designers / Engineers / Surveyors	Manufacturer / Supply Chain	Property management	Specific Interest	Energy Sector	Other	Building Occupier
DIY		12	2	3	2	1	1	1	0	1	1
Bilateral		12	1	6	0	0	0	2	0	3	0
Brokerage		12	0	5	2	1	0	0	0	3	1
Fund		27	6	12	0	2	0	2	2	3	0
Total		63	9	26	4	4	1	5	2	10	2
DIY	7%	19%	22%	12%	50%	25%	100%	20%	0%	10%	50%
Bilateral	7%	19%	11%	23%	0%	0%	0%	40%	0%	30%	0%
Brokerage	7%	19%	0%	19%	50%	25%	0%	0%	0%	30%	50%
Fund	16%	43%	67%	46%	0%	50%	0%	40%	100%	30%	0%
Unanswered %	63%										