

Zero carbon for new non-domestic buildings: Consultation on policy options (November 2009) Response form

This form can be downloaded from:

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|---|---|
| Name: Louise Sunderland | Please return by: 26 February 2010 Responses should preferably be submitted by email to: buildgreen@communities.gsi.gov.uk Alternatively, hard copy responses should be sent to: Clover Summers Sustainable Buildings Division Communities and Local Government Zone 5/G10 Eland House Bressenden Place London SW1E 5DU |
| Role: Researcher | |
| Organisation: Association for the Conservation of Energy | |
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Are you responding as an individual?

Or are you representing the views of an organisation?

If you are responding on behalf of an organisation, please say who the organisation represents and, if applicable, how the views of members have been assembled.

The Association for the Conservation of Energy is a lobbying, campaigning and policy research organisation, and has worked in the field of energy efficiency since 1981. Our lobbying and campaigning work represents the interests of our membership: major manufacturers and distributors of energy saving equipment in the United Kingdom. Our policy research is funded independently, and is focused on three key themes: policies and programmes to encourage increased energy efficiency; the environmental, social and economic benefits of increased energy efficiency; and organisational roles in the process of implementing energy efficiency policy. We welcome this opportunity to respond to this consultation.

Is your response confidential? If so please explain why.
(See disclaimer on page 5 of the consultation document)

| | |
|-----------------|-------------------------------------|
| Yes | <input type="checkbox"/> |
| No | <input checked="" type="checkbox"/> |
| Comments | |

Provision is made throughout this questionnaire for you to make additional comments. If, however, you wish to provide more detailed comments on any aspect of the consultation then please feel free to append additional materials and supplementary documents, clearly marked and cross referenced to the relevant questions, as necessary.

| Organisation type (tick one box only) | | | |
|---|--------------------------|------------------------------------|-------------------------------------|
| Commercial developer | <input type="checkbox"/> | Local authority – Planning | <input type="checkbox"/> |
| Residential developer | <input type="checkbox"/> | Local authority – Building Control | <input type="checkbox"/> |
| Property management: | | Approved Inspector | <input type="checkbox"/> |
| Commercial | <input type="checkbox"/> | Trade body or association | <input type="checkbox"/> |
| Public sector | <input type="checkbox"/> | | |
| Residential | <input type="checkbox"/> | | |
| Builder – Main contractor (commercial/volume house builder) | <input type="checkbox"/> | Householder: | |
| Builder – Small builder (repairs/maintenance, etc) | <input type="checkbox"/> | Homeowner | <input type="checkbox"/> |
| | | Tenant | <input type="checkbox"/> |
| Architect | <input type="checkbox"/> | Non-governmental organisation | <input type="checkbox"/> |
| Civil/structural engineer | <input type="checkbox"/> | Specific interest or lobby group | <input checked="" type="checkbox"/> |
| Local authority – Other | <input type="checkbox"/> | Research/academic organisation | <input type="checkbox"/> |
| | | Other (please specify): | <input type="checkbox"/> |

| Geographical Location | | | |
|------------------------------|-------------------------------------|-------------------------------|--------------------------|
| England | <input checked="" type="checkbox"/> | Wales | <input type="checkbox"/> |
| England and Wales | <input type="checkbox"/> | Other (please specify) | <input type="checkbox"/> |

CONSULTATION QUESTIONS

Chapter 2

1. Do consultees agree that we should establish challenging energy efficiency standards for non-domestic buildings covering space heating and cooling, and measured on a kWh/m²/year basis? If not, why not, and what approach to setting energy efficiency standards would you prefer?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment:

In the interests of consistency and simplicity, ACE agrees that non-domestic and domestic buildings should be measured using the same kWh/m²/year metric. However, ACE questions the inclusion in this measurement of heating and cooling only, excluding lighting which is a significant contributor to regulated energy use in many of the building types modelled.

ACE agrees that standards for energy efficiency for non-domestic buildings should be at least as challenging as those set for domestic buildings, although has concerns over the level of ambition in the proposed scenarios in the consultation document. Reducing energy demand, through fabric energy efficiency measures, must of course be the starting point and bulk hold for any zero carbon buildings policy as it not only provides secure, locked-in carbon reduction contributions, often at highest net present value, but also contributes to energy security objectives and future cost savings for building occupiers. ACE therefore urges CLG to push in this policy for the highest achievable standards of energy efficiency.

ACE also reminds CLG that the standards of both energy efficiency and onsite renewable energy generation (carbon compliance) set in this policy process in 2010 will serve into the foreseeable future, potentially to 2050 in terms of the carbon we expect to save from the new buildings built under this policy, so must be challenging enough to accelerate innovation and continue to serve us as intended in light of future developments.

Chapter 3

2. Which of the three scenarios would you favour as a basis for setting onsite aggregate targets for zero carbon trajectories and why?

| | |
|---------------|-------------------------------------|
| Off-site rich | <input type="checkbox"/> |
| Balanced | <input type="checkbox"/> |
| On-site rich | <input checked="" type="checkbox"/> |

Comments. If you do not agree with any of the three scenarios, please provide

comments here, stating why and what you would prefer.

ACE calls for the highest levels of energy efficiency and on-site carbon reductions to be made at the point of build so of the three options presented favours option 3. ACE is concerned however at the low level of on-site carbon reductions proposed in this option. At only 63% onsite reductions, the on-site target is 7% below that favoured in the responses to the earlier March 2009 consultation on the definition of zero carbon for domestic and non-domestic buildings.

There is a litany of reasons that securing the highest possible level of on-site carbon reductions is essential:

1) as stated in response to Question 1, the zero carbon for new non-domestic buildings policy and practical definition will need to serve our new buildings well into the future so needs to accelerate and allow for, rather than limit, future innovations and best practice advancements. Zero carbon is a finite definition that will be more and more achievable using on-site solutions as time passes. In producing the background modelling analysis for this policy, the use of modelling assumptions and definitions of cost effectiveness that are current or in some cases already out of date (for example grid carbon intensity) unacceptably limits the policy options available to us for future years. This seems neither a sensible nor challenging approach to the development of a long-sighted and ambitious policy.

2) Reducing the energy demand of the building provides ongoing benefits to national energy security objectives and more locally to all future building occupants through energy bill reductions.

3) As illustrated by Shorrock (2009) for the domestic stock, we need to complete a high level retrofit of the existing building stock as well as eliminate the emissions from new buildings to reach the 2050 carbon reduction targets. By contributing to the zero carbon status of new buildings with reduced emissions from the existing building stock (as proposed in a number of allowable solutions) we will create a situation in which firstly, we will not achieve the 2050 carbon targets for the building sector and secondly, the new buildings of today will need retrofitting in the future to achieve the transferred emission reductions, probably at higher cost than integrating systems at build stage.

Although the potential to promote community based schemes (under option 1) or district or off-site renewables infrastructure (under option 2) is very real and appealing, the zero carbon buildings policy must, as its primary aim focus on achieving the maximum potential reductions from improving the performance of the individual building. Therefore, it must seek the highest level of carbon reduction target on-site.

The need to promote community based schemes and renewables infrastructure is increasingly promoted under other policies and targets and the desire to promote these areas must not overshadow the need to push building energy efficiency.

3. What views do you have on the impact of the costs of building to zero carbon standards in different sectors? How and why does sensitivity to new build costs differ between sectors?

Comment: No comment

Chapter 4

4. Do you agree that we should adopt the same measures and approaches for allowable solutions for non-domestic buildings as those for homes?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment:

ACE objects to the wording of question 4 which leads the respondent to agree with maintaining the consistency of a list of allowable solutions between the domestic and non domestic stock, but does not account for the fact that this list of allowable solutions has not yet been agreed. In agreeing to the seemingly sensible suggestion in question 4 that keeping consistency in the list of allowable solutions for the purposes of simplicity and economies of scale, ACE is in no way agreeing with the list of solutions presented.

ACE notes that the consultation questions do not provide an opportunity to comment on the list of allowable solutions so will comment here.

Firstly given that, in the summary of responses to the 2009 consultation, published in July 2009, "there was relatively low support for including energy efficient appliances / building control systems" in the list of allowable solutions, ACE is very concerned that this solution appears again in the present consultation document. ACE does not agree that energy efficiency appliances of a high standard should be included as an allowable solution. The energy efficiency of a growing list of appliances is promoted under minimum standards imposed at a European level and is one of the areas of energy efficiency that has travelled furthest. ACE does not feel that further promotion of appliance efficiency is necessary or well-placed in this policy.

ACE also questions why 'further carbon reductions on site' have not been incorporated in the energy efficiency or carbon compliance targets for carbon

reduction. The explanation given suggests that this allowable solution accounts for circumstances where going further onsite is more cost effective. In taking the aggregate rather than a flat rate approach to the targets, which is intended to encourage on-site reductions to the different potentials offered by different building types, it is expected that within reason all cost effective on-site solutions would have been taken up as energy efficiency or carbon compliance measures. ACE calls on CLG to push the energy efficiency and carbon compliance targets high enough that on-site measures are optimised and achieve a high level of carbon reduction. In this case the proposed allowable solution relating to on-site reductions should be solely used to promote high level innovation well beyond current best practice.

ACE has concerns that both the 'further carbon reductions on-site' and the 'advanced building control systems' allowable solutions are currently industry best practice and therefore should not be included in the allowable solutions section of targets. These measures should be included in the standard energy efficiency and on-site carbon compliance targets.

In addition, the real concerns raised in the last consultation around the 'investment in low and zero carbon community heat infrastructures' allowable solution still stand. Issues around whether the asset is transferred to the building or the owner and is therefore able to be sold make the inclusion of this option very complex.

If, despite the arguments we have enunciated, the decision is nonetheless taken to allow extensive amounts of off-site activity ACE would support the reintroduction of retrofitting works undertaken by the developer to transform the energy efficiency of existing buildings in the vicinity of the development as an allowable solution. This option did receive substantially more support in the responses to the March 2009 consultation than several other off-site options which still apparently remain under consideration.

CLG has been clear with consultees that the issues around allowable solutions have not benefitted from sufficient investigation to produce confident answers to questions about cost and practicalities. Therefore ACE calls for close monitoring of the accreditation of allowable solutions and careful checking of compliance. ACE is very concerned that in the final section of the consultation document on 'delivery and next steps' there is no mention of the introduction of measures and infrastructures to control this area that is so open to abuse.

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measures and infrastructures to control this area that is so open to abuse.

5. Are there any extra allowable solutions that should be used specifically for non-domestic buildings?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment:

If, despite the arguments we have enunciated, the decision is nonetheless taken to allow extensive amounts of off-site activity ACE would support the reintroduction of retrofitting works undertaken by the developer to transform the energy efficiency of existing buildings in the vicinity of the development as an allowable solution. This option did receive substantially more support in the responses to the March 2009 consultation than several other off-site options which still apparently remain under consideration.

6. Do you agree with the proposal to introduce an element of allowable solutions for non-domestic buildings at 2016? What views do you have on the level at which this should be set, and the impact this will have?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment: ACE is comfortable with the early introduction of allowable solutions in 2016 for new non-domestic buildings for the purposes of market generation and promotion of cost reduction through economies of scale. The very significant caveat to this agreement is that the introduction of allowable solutions must in no way result in the reduction of the target, for buildings built at any time, for on-site carbon reductions.

Strict accreditation and careful monitoring of compliance must be put in place before any allowable solutions are introduced and ACE only agrees with the early introduction of these measures if the establishment of these controls can be illustrated in advance.

| |
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Chapter 5

7. Do you favour an approach of setting a flat rate requirement above 100 per cent regulated emissions to account for unregulated emissions?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment: In the interests of trying to keep simple what is proving to be a complicated policy, ACE agrees with the proposal to introduce a flat rate of unregulated emissions for all building types.

8. Would you favour the 10 per cent allowance, the 20 per cent allowance or another rate? Why?

| | |
|-------------|-------------------------------------|
| 10 per cent | <input type="checkbox"/> |
| 20 per cent | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> |

Comment:

Given that the range of unregulated emissions as a percentage of regulated emissions for the building types modelled in the consultation document is spread between 5% and 67%, ACE calls for a higher flat rate than 20% to be established. The average unregulated energy as a percentage of result of regulated energy of the 11 building types modelled (not accounting for number of each building type) is 23%. Given that the BRE analysis quoted in paragraph 2.12 of the consultation Impact Assessment indicates that offices, with the highest % unregulated emissions, enjoyed the highest build rates over the last 10 years, ACE suggests the 20% figure proposed should be higher.

Chapter 6

9. Do you agree with the overall work programme we have outlined for the public sector?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment:

This programme would be even more effective if the lessons learned could be transferred to those responsible for managing the refurbishment of existing public buildings

10. Are there other ways in which you think the public sector could usefully provide leadership for the move to zero carbon?

| | |
|------------|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment:

We welcome the commitment to communicate early all of the lessons learned in the public sector, but it is of vital importance that these lessons are transmitted effectively to potential beneficiaries.

11. Do you agree that the public sector should start trialling allowable solutions from 2015?

| | |
|-----|-------------------------------------|
| Yes | <input checked="" type="checkbox"/> |
| No | <input type="checkbox"/> |

| | |
|------------|--------------------------|
| Don't know | <input type="checkbox"/> |
|------------|--------------------------|

Comment: The public sector trial of allowable solutions will be an essential step in the process of ensuring that all of the allowable solutions included produce reliable, traceable and real carbon savings.

12. What role(s) do you think local government can play in contributing to public sector leadership on zero carbon buildings?

Comment:
 Given its vital importance in extending the exemplary role as market drivers of the public sector, it is quite extraordinary that no consideration has been given to making similar requirements of local government; this is all the more surprising given the Audit Commission's interest in pursuing this agenda.

Chapter 7

13. Does this package of measures and proposals for next steps address the key delivery issues to make progress towards the zero carbon ambitions? If not, what action is needed and by whom?

| | |
|------------|-------------------------------------|
| Yes | <input type="checkbox"/> |
| No | <input checked="" type="checkbox"/> |
| Don't know | <input type="checkbox"/> |

Comment: ACE has two main concerns with the next steps proposals.

Firstly, the consultation document acknowledges the fact that the main delivery mechanism for the zero carbon standard will be Building Regulations. During the recent consultation process on Building Regulations Parts L and F, serious concerns over compliance with building regulations were raised. Government has neither put in place or proposed sufficient measures to address this existing undercompliance problem. ACE is therefore concerned that compliance with the zero carbon definition will suffer through a lack of monitoring and enforcement. Setting a precedent of low levels of compliance and a lack of enforcement from the early stages in this new policy will threaten its reputation, acceptability and

long term efficacy. Any concern over the effectiveness of the carbon emissions reduction measures built into buildings will also prevent the market from confidently beginning to integrate the value of energy efficiency of buildings into the price - a market failure that CLG makes clear it wants to address.

Secondly, ACE is concerned that paragraph 7.4 of the consultation document acknowledges that the regulatory oversight body for allowable solutions is yet to be decided. Particularly in light of the proposal to commence allowable solutions in 2016 for both domestic and non-domestic buildings, it is of utmost importance that an oversight body be nominated and upskilled in preparation for what is predicted to be the most complicated compliance area related to this new policy.

General suggestions and observations

14. If you have any other comments on the proposals for zero carbon for new non-domestic buildings, please add them here.

Comment:

Broadly ACE is extremely supportive of the overall thrust of this policy and urges swift adoption. But its credibility will be undermined if there is no coherent and credible attempt made to ensure full compliance is achieved.