Zero Carbon Homes

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Summary

The Labour Government set out the original plans for zero carbon homes in their consultation document ‘Building a Greener Future’ in 2006. The coalition Government has amended the proposals with the aim of striking a balance between zero carbon goals and the stimulation of growth in the house building industry. The concept of ‘Allowable Solutions’ has been introduced to widen the possibility of what off-site carbon reductions can be considered.

A commitment to delivering zero carbon homes from 2016 was included in the Budget 2013. A written statement on 30 July 2013, announced the Government’s plans to amend Part L of building regulations. The aim was to strike a balance between reducing the regulatory burden on developers and the Government’s zero carbon home commitments.

The Government introduced the proposals as part of the Infrastructure Bill. The Bill as originally presented in the Lords did not include the section on off-site carbon abatement measures. The Government introduced them as an amendment and they are now clause 32 of the Bill. The clause would amend the Building Act 1984, to extend the matters that may be covered by the Building Regulations to, “the action to be taken as a result of a building’s contribution to or effect on emissions of carbon dioxide (whether or not from the building itself)”.

Homes would have to be built to at least level 4 of the Code for Sustainable Homes, but developers under a certain size would be exempt from the allowable solutions requirement. The government has not yet made a decision, but is minded that this would be developments of 10 units or under, nor has it finalised what the allowable solutions will be. It published a consultation on this in November 2014.

The provisions on allowable solutions, now section 37 of the Infrastructure Act 2015, where intended to come into force through regulations. However the Government announced on 10 July 2015, when it published its productivity plan, Fixing the foundations: Creating a more prosperous nation, that it would not proceed with the zero carbon allowable solutions, or the proposed 2016 increase in on-site energy efficiency standards. Instead it would keep energy efficiency standards under review.

In response to the cancellation of the scheme a successful amendment was tabled at Report stage of the Housing and Planning Bill 2015-16 in the House of Lords. This would require the Government to put in place regulations for a carbon compliance standard for new homes by 2018. The amendment was removed in the House of Commons and replaced by a commitment to a review the energy performance requirements under Building Regulations.
1. Background

In December 2006 the Labour Government published a consultation document setting out plans to move towards zero carbon in new housing using three main ‘policy levers’: the planning system; the Code for Sustainable Homes; and the Building Regulations.\(^1\) The Code for Sustainable Homes, a voluntary set of standards for assessing new homes, whose highest level (6) requires zero carbon, was published at the same time.\(^2\)

The March 2011 Budget furthered the requirements for zero carbon homes. The accompanying Plan for Growth said that cooking and plug-in electrical appliances would not be counted, since these were beyond the influence of house builders and would be addressed through other policies. It also said the Government would introduce “more realistic solutions” for carbon reductions, and allow for off-site reductions, stating that these proposals would “ensure that it remains viable to build new houses”:

\[2.299\] The Government will introduce more realistic requirements for on-site carbon reductions, endorsing the Zero Carbon Hub’s expert recommendations on the appropriate levels of on-site reductions as the starting point for future consultation, along with their advice to move to an approach based on the carbon reductions that are achieved in real life, rather than those predicted by models. This will be complemented by cost-effective options for off-site carbon reductions, relative to the Government’s pricing of carbon, and Government will work with industry through consultation on how to take this forward.

\[2.300\] This approach will deliver zero-carbon homes on a practical basis from 2016, with significantly reduced costs to industry, compared to previous proposals.\(^3\)

The previous Government made a commitment in the Carbon Plan that there will be “regulatory requirements for zero carbon homes to apply from 2016”. The approach to this has been to review the voluntary Code for Sustainable Homes to make it increasingly stringent with a view that the highest level, Level 6, equates to what will be required to meet the zero carbon standard in 2016. The intention being that these standards will be incorporated into building regulations from that date as a minimum requirement for all new homes.

This was set out in a review of the code in 2010, which included a proposed definition of a zero carbon home:

It would require a 70 per cent reduction in carbon emissions against 2006 standards through a combination of energy efficiency, on-site low and zero carbon energy supply and/or connections to low carbon heat networks (‘carbon compliance’). The remaining emissions, including a calculated amount to cover the use of appliances, would be addressed through a system of

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\(^1\) CLG, *Building A Greener Future: Towards Zero Carbon Development*, December 2006


\(^3\) HM Treasury/BIS, *Plan for Growth*, March 2011
‘allowable solutions’ (including achieving further reductions on-site and a range of off-site measures).

This builds on previous announcements that the route to zero carbon would involve a series of regulatory steps of improvements against 2006 requirements of 25 per cent in 2010, 44 per cent in 2013 and finally to zero carbon in 2016.

The Impact Assessment (IA) on zero carbon homes, published by the Department for Communities and Local Government in May 2011, said:

From 2016, developers will be required to deal with all emissions from new build homes that fall under the scope of building regulations. A specified portion of this will have to be dealt with on-site through energy efficiency measures such as insulation and onsite renewables such as solar panels. The remaining emissions can be dealt with through offsite measures, the mechanism for which has yet to be decided. 4

Savings could be made through off-site measures so the homes and developments themselves will not necessarily be zero carbon. The minimum requirement will be to meet existing building regulations, with the remainder met with additional on-site measures or through off-site allowable solutions. The IA also said:

Since this is, ultimately, about asking industry to build better-performing homes, it will inevitably come at a cost. This could be in the region of £3,000 to £8,000 per house by the time the policy starts to have an effect, depending on the dwelling type (for example just over £4,000 for a typical semi-detached house built in 2017). These are significantly reduced costs from the previous definition of the policy – which had costs of £8,000 to £12,500 per house. 5

In July 2011 the Zero Carbon Hub said that;

At present the Government has yet to define what will constitute an Allowable Solution, however on-site, near-site and off-site carbon-saving projects are expected to be available. The framework sets out the mechanism by which affordable, verifiable carbon savings projects might be funded and how they might be delivered in a way that encourages additional investment, limits the impact on those who are making Allowable Solutions payments, encourages innovation and fair competition and, crucially, gives the option for local choice in the projects that are funded.

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4 CLG, Zero-carbon homes: impact assessment, 17 May 2011
5 ibid.
2. Allowable Solutions Consultation

In August 2013, the Government launched the Next steps to zero carbon homes: allowable solutions consultation. In July 2014 the Government published its response to the consultation, in which it explained its decision to set an onsite standard as being equivalent to Level 4 of the Code for Sustainable Homes (the original intention was for it to be set at Level 6). This would represent “an improvement on current Building Regulations’ requirements of approximately 20% across the new homes build mix”.

There would also be an exemption for small sites to ensure that small house builders did not face unreasonable extra costs. A national design framework for allowable solutions would be established, and developers would be allowed to meet the extra requirements onsite or offsite themselves, or contract or pay others to do so on their behalf.

The consultation also set out three possible cost caps for offsite allowable solutions: low (£36 per tonne of carbon), central (£60 per tonne of carbon) and high (£90 per tonne of carbon). The consultation did not speak to the potential impacts of the different cap levels, so the Government committed to carrying out further analysis before taking a decision.

3. The Infrastructure Bill provisions

The Bill as originally presented in the Lords did not include the section on off-site carbon abatement measures. The Government introduced them as an amendment. The clause would amend the Building Act 1984, to extend the matters that may be covered by the Building Regulations to “the action to be taken as a result of a building’s contribution to or effect on emissions of carbon dioxide (whether or not from the building itself)”.

3.1 Lords Stages

Although there were several opposition amendments to the Bill in the Lords, all were withdrawn after debate. There were no votes on this clause.

Debate in the Lords focused on the details of the proposals. One of the main issues of debate was the size of developments that should be exempt from the requirements, with amendments tabled that would limit this to five dwellings or less and remove the exemption completely.

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6 CLG, Next steps to zero carbon homes: allowable solutions, August 2013
7 CLG, Next steps to zero carbon homes – Allowable Solutions: Government response and summary of responses to the Consultation, July 2014, p5
in 2018. The Government stated its intention to consult on this issue but said it was minded to set it at around sites of 10 units or less:

We want to ensure that the exemption is proportionate and targeted to help small builders, that there are clear criteria as to its application and that it is designed to ensure that it helps only those that it is meant to help. I reassure noble Lords that the key questions about site size will sit at the heart of the consultation.

There was also some criticism that the Government had not set out its rationale for an exemption for small developers, and that the proposal would have disproportionate impact on rural areas where smaller developments are more common and fuel poverty is often a concern.

The Minister opposed limiting the distance from a development for off-site measures:

While we are very keen that local projects are supported through allowable solutions, this proposal is not workable. We asked in our consultation whether there should be a spatial limit on off-site carbon measures. Views were evenly matched, but slightly more of those responding did not think the measures should be limited to just those in the vicinity of the development.

The Government was pressed on the decision to lower the onsite requirements to Level 4 of the Code for Sustainable Homes, and questioned on the evidence base for this decision.

There were proposals put forward to include requirements for annual progress reports to be included in the legislation. The Minister referred to the reporting requirements in the Sustainable and Secure Buildings Act 2004, which could be adapted to include information on zero carbon homes and the new proposed powers allowing the creation of a register of certificates to provide evidence of compliance.

A further amendment was tabled to ensure that there was no gap between the removal, under the Deregulation Bill, of powers for local authorities to impose their own higher emissions standards on new developments, and the introduction of the zero carbon homes standard. The Minister stated in response that the Government was conscious of the need for a sensible transition arrangement.

During Report Stage, the House of Lords returned to the issue of the size of smaller developments that are exempt from the provisions, and whether this exemption should be extended to 2018. In response to the debate, the Minister said:

Research recently published by the National House Building Council on improving prospects for small housebuilders suggests that the availability of suitable small sites—which they indeed prefer—is declining. It also indicates that any extra regulatory
costs can impact on the viability of development. We are concerned that if the costs of zero carbon lead to fewer small sites being brought forward, this will further hinder the prospects for small housebuilding firms.\footnote{HL Deb 5 November 2014, c1707}

### 3.2 Small Site Exemption Consultation

In November 2014, the Government published a [consultation on the small sites exemption](https://www.gov.uk/government/publications/next-steps-to-zero-carbon-homes-small-sites-exemption). This set out the Government’s preferred option of setting a 10 site exemption limit:

Under this option all developers in England would be required to build to a minimum requirement set in Part L of the Building Regulations, but smaller sites or developers would not have to support or carry out any further carbon abatement measures.\footnote{DECC, *Next steps to zero carbon homes: Small sites exemption*, November 2014}

However the Government also recognised the potential difficulties of implementing this exemption limit:

Alongside the benefits of a site based exemption, Government recognises that there are risks:

- not all developments on small sites are undertaken by smaller developers. In rural areas in particular, smaller development sites account for around 80% of total housing delivery and there are some large companies operating in this market.
- there could be a risk that larger developments are artificially split into a number of smaller sites.

The risks could be managed in two ways. Firstly, the Government could introduce criteria for a maximum floor space alongside the unit based criteria. An approach could be to set a maximum size of 1000 square metres of floor space for a 10 unit development – so 100 square metres of floor space for every property captured by the site size set.

A maximum floor space would ensure that larger sites that are delivering a few bigger properties do not automatically benefit from the exemption. This is arguably proportionate, as larger sites delivering a small number of large properties are generally more profitable for developers.

Alternatively, a completely different approach to the exemption could be designed. It could be targeted at smaller developers themselves rather than smaller sites. A smaller developer could be based on the Government’s definition of a small company, which is based on having 49 employees or less.\footnote{ibid.}

### 3.3 Commons Stages

During Second Reading of the Bill, on 8 December 2014, concerns were again raised by several MPs about the intention to exclude smaller developments from the offsite abatement requirements. In response the Minister reiterated the Government’s position as follows:

there is always a balance between inhibiting or even preventing development at all and achieving our desired outcomes on
Several amendments were tabled during Committee Stage but there were no Government amendments or divisions during the debate on allowable solutions. A full transcript of the debate and explanatory notes, and written submissions to the Public Bill Committee, are available online on the Parliament website Bill Page.

During the Committee Stage debate the main areas of focus were again the threshold below which the developer would be exempt from including allowable solutions and under what circumstances offsite allowable solutions should be permitted. During the debate the Minister made clear that as the consultation had just closed, these issues were not finalised:

Consultation has only just finished. It did ask about site size, based on the number of units, and there were questions about square metreage and the size of the builder […] We have not yet decided what we are going to do. We are minded to use the number of units per site, because not only do we want small builders to come into the market, we also want small difficult sites to be developed. No absolute decision has yet been made. I gave an assurance earlier that we would design the exemption to ensure there was no gaming of the system, and I am sure we would look at square metreage and the size of the building firm as part of that.

However, he did reiterate that all builders would have to build to Level 4 of the Code for Sustainable Homes, and that extra requirement for on or off site allowable solutions would only apply to larger developers.

Members questioned why the Code for Sustainable Homes level had not been set at 5 or 6 instead, and disagreed with the Government on the cost implications of more stringent requirements.

An amendment was tabled by Nick Raynsford to exclude an exemption being given solely on the basis of the number of units on site. The amendment was withdrawn but Mr Rayford did signal his intention to return to this issue during Report stage.

There was also a several amendments aimed at ensuring allowable solutions where implemented in the same planning authority area, or in the built environment only, so that the benefits could be felt locally, rather than where they were cheaper to implement. Alistair Burt gave the example of the Energy Company Obligation stating, “despite having a 13% share of housing, in the first year of the Energy Company Obligation, London received only 6.4% of spending. That lets down those in fuel poverty in the capital who might otherwise have been helped”.

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20 HC Deb 8 December 2014, c659
21 PBC 8 January 2015, c215
22 Ibid c214
23 Ibid c 216
24 Ibid c215
25 Ibid c 232
The Minister did not support this, preferring a national scheme or fund, which would be more cost effective for builders:26 “the guiding principle of the allowable solutions scheme is freedom of choice for house builders in how they meet their obligations”27 This was reiterated later on in the debate:

We want to ensure a competitive marketplace for allowable solutions so that the house building industry and other people can innovate and come up with allowable solutions to drive down the price and obtain the best value.28

There was also discussion on what kind of measures would be considered allowable solutions. The Minister listed the following examples during the debate of those that had been part of the discussion so far:

Low carbon infrastructure, such as district heating schemes and retrofitting low carbon technologies in existing buildings [...] a huge opportunity exists here to augment the green deal to retrofit older homes [...] District heating, retrofitting, low energy street lighting and electric car charging points.29

He was also asked to rule out that tree planting would be included in the allowable solutions. He did not do so, but did say that “in all of the discussions I have had, trees have never been mentioned”.30

4. Proposals cancelled

The provisions on allowable solutions, now section 37 of the Infrastructure Act 2015, where intended to come into force through regulations.

Chapter 9 “Planning freedoms and more houses to buy” of the Government’s productivity plan, Fixing the foundations: Creating a more prosperous nation, published on 10 July 2015, announced that the Government would not proceed on allowable solutions or the increase in on-site efficiency standards:

“repeat its successful target from the previous Parliament to reduce net regulation on housebuilders. The government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established”

On 16 July 2015, a number of PQs were asked and answered in the House of Lords on the decision to cancel the zero carbon homes commitment. The response focused the on the manifesto pledge to increase house building, as set out by Viscount Younger of Leckie:

26 Ibid c233
27 Ibid c232
28 Ibid c234
29 Ibid c233
30 Ibid
I understand that the noble Lord is exercised about this but research has shown that the zero-carbon standard would have placed a significant regulatory burden on housebuilders and developers. These changes will give rise to the challenge of building more homes, including new starter homes. The carbon offsetting element—the so-called “allowable solutions”—would count as a tax on developers and would be of no benefit to the homebuyer, so we are giving the industry some breathing space.

The governments’ announcement was criticised by environmental groups. Views where summarised in the Guardian article “UK scraps zero carbon homes plan”:

“We are very disappointed with this decision,” said Philip Sellwood, Chief Executive of the Energy Saving Trust. “Under the Climate Change Act, we have to achieve at least an 80% reduction in the carbon emissions from our homes by 2050. We need to be building homes now that are 2050 ready.”

Kate Henderson, Chief Executive of the Town and Country Planning Association said “The cancellation of the policy marks the end of any benchmark for building the high quality, sustainable homes that we so desperately need.”

A Business Green article “Government demolishes Zero Carbon goal for new homes” concluded that “the news came as a blow to the green building industry, which has repeatedly urged the government to strengthen green standards and provide clarity on how it intends to do so”.

On Monday 20 July 2015, more than 200 businesses from the construction, property and renewable energy industries urged the Chancellor to reconsider the Government’s decision to abandon the zero carbon homes policy in an open letter published on the Green Building Council’s website:

The weakening of standards will mean our future homes, offices, schools and factories will be more costly to run, locking future residents and building users into higher energy bills. It also runs counter to advice from the Committee on Climate Change, impeding our ability to meet our statutory carbon targets cost-effectively at a time when we should be showing international leadership on this issue.

5. London Zero Carbon Standard

Following the announcement that allowable solutions would not be implemented across the whole of England, the Mayor of London made clear in response to questions from the London Assembly on 18 November 2016 that carbon reduction targets would be implemented in London:

I can confirm that the carbon reduction targets set out in policy 5.2 of my London Plan will continue to be applied to major developments across London.

The Mayor continued that offsite allowable solutions would also be implemented in London:

I can confirm that where the specific London Plan targets cannot be fully achieved on-site, I will seek any shortfall be provided off-
site or through a cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of carbon dioxide savings (akin to ‘Allowable Solutions’).

The decision was welcomed by the UK Green Building Council according to an article in BusinessGreen:

Louise Sunderland, senior policy adviser for the UK Green Building Council, welcomed the announcement and said it was clear many local leaders were keen to retain the standard. “We made clear when the announcement was first made our incredibility at government rolling back on ambition and it’s hardly surprising that ambitious local leadership wants to keep the standards,” she said.

“They understand that industry does need to know where it’s going, particularly in London which has very high land prices and density that does enable the developers to look at district heating. There’s a lot of possibility in London and there is no reason why we can’t drive for these standards.”

In March 2016 the Mayor of London published updated Housing Supplementary Planning Guidance implementing a zero carbon standard that applies to all new homes that are part of major developments from October 2016:

The Housing SPG defines ‘Zero carbon’ homes as homes forming part of major development applications where the residential element of the application achieves at least a 35 per cent reduction in regulated carbon dioxide emissions (beyond Part L 2013) on-site. The remaining regulated carbon dioxide emissions, to 100 per cent, are to be off-set through a cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of carbon dioxide savings elsewhere (in line with policy 5.2E).

This is in addition to the 35% improvement on Part L of the Building Regulations which cover energy efficiency of new buildings, which was already in place and will continue to apply to commercial development.

In summary, the emission reduction targets the Greater London Assembly will apply to applications are as follows:

• Stage 1 schemes received by the Mayor up until 30 September 2016 – 35% below Part L 2013 for both residential and commercial development.

• Stage 1 schemes received by the Mayor on or after the 1st October 2016 – Zero carbon (as defined in section 5.2 of the Housing SPG) for residential development and 35% below Part L 2013 for commercial development

Further details can be found in the Mayor of London publication on Energy Planning: Greater London Authority guidance on preparing energy assessments (March 2016).

6. Housing and Planning Bill: Carbon compliance standard

During the Report stage of the Housing and Planning Bill 2015-16, which was introduced in the Lords, Liberal Democrat Peer Baroness
Parminter moved amendment 118, to insert a new clause to introduce a “carbon compliance standard for new homes” into the Bill.

The aim was to ensure that new homes contributed to meeting greenhouse gas targets and to help lower fuel bills. The amendment would require the Secretary of State to make regulations, within one year, to ensure that all new homes in England built from 1 April 2018 achieve the carbon compliance standard. The carbon compliance standard is defined in the amendment as:

An improvement on the target carbon dioxide emission rate, as set out in the Building Regulations 2006, of—(a) 60% in the case of detached houses; (b) 56% in the case of attached houses; and (c) 44% in the case of flats.31

Crossbench Peer Lord Krebs, also Chair of the Committee on Climate Change, Adaptation sub-Committee, said that “if we do not require the zero carbon homes standard today, we will have to introduce it at some point in the future” and that there were compelling reasons to accept this amendment, “in terms of both our climate change commitments and cost effectiveness”32

The Parliamentary Under-Secretary of State, Department for Communities and Local Government, Baroness Williams of Trafford, set out that the Government had changed the Building Regulations in April 2014 to improve energy efficiency standards in new homes and that “we think it is right to give the housebuilding industry breathing space to build these highly energy-efficient homes before making further changes.”33 She also highlighted ongoing work to strengthen the current standards further:

Current standards will be assessed against these to see whether they are cost optimal. If there is room to go further, the directive requires member states to take action to strengthen these standards.

As part of the process, we will seek the expert views of the Building Regulations Advisory Committee. We would also welcome evidence from the industry and others. In particular, we would like to receive evidence from the Committee on Climate Change, as well as from noble Lords in this House. We expect work to conclude in the autumn, to give time to reflect on the conclusions, to report to the Commission next year and to consider what needs to be done in any future Building Regulations. We would be happy to keep noble Lords apprised of the progress with the review and its conclusions.34

The Minister concluded by saying:

I hope this reassures your Lordships that we are committed to a review and to introduce nearly zero energy building standards by the end of this Parliament, and therefore that the proposed clause is not needed.35

31  HL Deb 20 April 2016 c917
32  HL Deb 20 April 2016 c919
33  HL Deb 20 April 2016 c925
34  ibid
35  ibid
Baroness Parminter said that she had not heard anything to change her view of why the amendment was needed and so pushed it to a division, where it was agreed by 253 votes to 205.\textsuperscript{36}

The clause was removed during Commons stages. However, on return to the House of Lords, Peers insisted that it remain part of the Bill. Following this the Government tabled a successful amendment 108C in the Commons which would commit the Government to review the energy performance requirements under Building Regulations, although it did not include a deadline for this:

\textbf{Review of minimum energy performance requirements}

After section 2B of the Building Act 1984 insert—

\textbf{Duty to review minimum energy performance requirements}

2C Review of minimum energy performance requirements

The Secretary of State must carry out a review of any minimum energy performance requirements approved by the Secretary of State under building regulations in relation to dwellings in England.

This was welcomed by the Opposition, although Labour MP Teresa Pearce referred to the lack of detail included in the amendment:

Amendments 108 and 110 would ensure that all new homes built are carbon-compliant and have sustainable drainage provision. Although it would have been a positive step to see these issues covered in the Bill, it is welcome that the Government have committed to reviewing these issues. I hope the Minister will be able to provide further details, missing from the amendments themselves, about when these reviews are likely to commence; what a statutory review entails; when these reviews will be completed; and whether their findings will be reported to Parliament.\textsuperscript{37}

The Lords accepted the amendment from the Commons.

\section*{7. Zero carbon projects}

On the 15th January 2016, it was announced that WElink Energy and China National Building Materials (CNBM) would develop 8,000 zero-carbon homes in the UK. The apartment buildings will be zero-carbon, zero-waste and water-efficient buildings, and have rooftop solar panels, energy storage and waste-to-energy technologies.

In response the Renewable Energy Association chief executive, Nina Skorupska, said the announcement proved low-carbon homes were commercially viable and attractive to new home owners:

Britain requires a tremendous level of investment and political commitment to build over 200,000 homes needed a year […] Today's announcement demonstrates an excellent model for how to move forwards; these homes will have very low energy bills.
over their lives and owners will live more independently than ever before.\textsuperscript{38}

In light of the deal, she called on the government to reinstate the Zero Carbon Homes policy.

\textsuperscript{38} Business Green, WElink Energy, BSR and CNBM strike major green housing deal to build 8,000 zero-carbon homes, 15 January 2016
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