

**HEAD OFFICE AND
CORRESPONDENCE ADDRESS**

NHBC House, Davy Avenue
Milton Keynes MK5 8FP

LONDON OFFICE

First Floor, Layden House
76-86 Turnmill Street
London EC1M 5LG

T 0845 888 7620

F 0871 813 0569

info@zerocarbonhub.org
www.zerocarbonhub.org



ZERO CARBON HOMES - PROGRAMME DELIVERY TIMELINE

2016 Taskforce – 29th May 2012

Overview

The Zero Carbon Hub maintains a series of timelines and convenes a cross-industry 'Timeline Group' on a regular basis to review and report progress. The Timeline Group met on the 16th May 2012 and considered what progress had been made since the previous meeting on 20th January 2012.

The overall status remains at 'Red Amber' however the general consensus of the group was that the continual slow response of Government to address the critical issues raised by the timeline report is making the group very nervous. Indeed, the 2016 deadline may very soon need to be discussed in earnest.

In particular the lack of certainty with regard to the development of specific policies is now very serious. Several of the subjects in this report are in danger of being degraded. These include the Fabric Energy Efficiency Standard where uncertainty has become apparent, in particular whether the FEES methodology will be embedded in Part L 2013 and the potential impact on specifications from the introduction of quality assurance measures and processes. The 2013 step is very important but not knowing the final decision in this regard until April 2013 is a cause of considerable concern. It also includes 'Scale up' where the lack of investment in trialling the three aspects of the zero carbon hierarchy is a concern and one with strong links to skills and knowledge.

The group were disappointed that the Budget did not contain information on Allowable Solutions despite it being a key aspect of DCLG policy to do so, as stated in *A Housing Strategy for England*. Although the status of this item remains at Red the group felt strongly that of all the areas covered in this report it was now the most critical and would have been degraded further if the RAG scale had allowed.

The group awaits recommendations from Sir John Harman's Local Housing Delivery Working Group and note that these will need urgent attention by government to give certainty to industry, for example over the future of the Code for Sustainable Homes.

The National Compliance methodology (SAP) remains at Red and looks likely to remain so, as many of the concerns raised by industry and indeed the Hub team do not form part of the proposals for SAP2012. The group stressed the importance of this area given the interdependency between SAP and each element of the zero carbon hierarchy.

The outstanding work on the Carbon Compliance Standard has not progressed since publication of the report in February 2011. The Hub has secured some external financial support to assist in developing some of these unresolved issues.

As planned, the group's membership has been expanded to reflect the membership within the Taskforce and this has proved beneficial to the debate within the group.

Overall status – Red Amber, some aspects require substantial attention.

Key Points

Fabric Energy Efficiency Standard (FEES) (Green)

- The minimum FEES for low and zero carbon homes has been embedded in the Code for Sustainable Homes (since November 2010) although there is little experience and therefore feedback from industry on its implementation.
- A number of companies have embedded a fabric first approach in their business practices, however it was felt that across the industry experience of building to the FEES is currently very limited.
- The FEES is a requirement of the HCA's Public Land Initiative and some 1,200 homes are under construction using this methodology. However the HCA are no longer providing funding for exemplar sites.
- Some in the group voiced concern that should the Part L 2013 amendment not utilise the FEES methodology (at either the interim or full FEES level), this would be a severe set-back for the path to zero carbon from 2016. However, others supported a no-change approach given the current economic conditions.
- There was also concern about the seeming complexity of the governments preferred option for Part L 2013, especially for the smaller house builder, and views that this could be helped by the development of a 'deemed to satisfy route'.
- Concern was also raised over the uncertainty caused by the proposed quality assurance measures to be implemented with Part L 2013 and how this might impact on specifications for achieving the FEES.
- The group concluded that this element is at risk of moving to Amber-Green and noted that the uncertainty over what the final position for Part L 2013 will be is a problem (as this might not be known until April 2013).

Carbon compliance (Amber)

- The outstanding additional work from the Carbon Compliance Standard (CCS) report remains a concern. This further work includes: i) modelling additional small dwellings, ii) determining the level for high rise buildings, iii) determining the weather assumption to be used, iv) determining the pathway and supporting 2013 regulations for delivering 'as built performance' and v) determining 'development averaging'.
- Furthermore, the Code for Sustainable Homes has yet to reflect requirements of CCS, which is delaying the opportunity to evaluate the Standard.
- The HCA Carbon Challenge sites will be trialling the new definition of zero carbon homes, including the CCS.

Allowable solutions (Red)

- A series of 'war game' workshops have been held to further explore and challenge the framework for Allowable Solutions developed by the Hub in 2011, with the aim of developing a fully detailed mechanism. A report summarising the findings will be available shortly.
- The group voiced growing concern over the lack of clarity from government regarding the actual cost per tonne of CO₂ for Allowable Solutions and the mechanisms by which this can be collected and spent. This is creating difficulties for businesses making commercial decisions about future developments.

- The HCA is currently considering testing this approach to zero carbon on an existing committed project, and whilst this would be useful learning for the industry, lack of clarity is making the decision regarding scheme viability and calculating the size of the proxy 'Allowable Solution' difficult.
- With a lack of clarity regarding Allowable Solutions from central government, some local authorities are creating their own Allowable Solutions schemes (sometimes referred to as Carbon Funds). Examples the group cited include Brighton (priced at between £1006 and £2525/t CO₂) and Islington (priced at £920/tCO₂). This reinforces the need for a national framework to ensure a level of consistency and avoid ineffective use of development capital for CO₂ abatement in the built environment.

Scaling up examples of low carbon and zero carbon homes (Amber)

- Consistent scale up and dissemination of learning prior to regulations being introduced is an important element of safely and efficiently delivering the zero carbon homes policy.
- The group discussed the need for Research, Development, Demonstration, Deployment and the fact that the rate of build has been much slower than anticipated and therefore the rate of learning has been significantly below that anticipated when the zero carbon policy was first announced. It was noted that a continuous improvement model with a knowledge sharing loop for the whole of industry is important to support scale-up.
- There is no HCA funding to support advanced standards, and although some TSB funding calls have been relevant, the number of projects delivered are very limited.
- There is therefore significant concern that the numbers of dwellings required to meet the 'scale up' requirements will not be met. This significantly reduces the predictability and planned nature of scale up and the opportunity to disseminate learning.
- Concern was also expressed regarding the Code for Sustainable Homes. In the past this has been an important aid to encourage early learning but at present there is uncertainty over the future of the Code and a lack of amendments to bring it in line with the current zero carbon definition. The lack of certainty here is creating confusion and sending mixed messages to industry, with the effect of holding back investment.
- Some local authorities are seeking to push further with various levels of the Code and this is more apparent in London and the South of England. Local requirements should only support a national scale up trajectory but, left to local decision making, the risk is that scale up is inefficient with inconsistent demands, lack of critical mass and little consolidation of feedback (technical and consumer reaction).
- The group concluded that this element was at risk of moving to Red-Amber, but it was agreed to maintain the Amber status for this report.

National compliance methodology - SAP (Red)

- The group emphasised that the issues surrounding SAP are a serious and severe risk to the delivery of Zero Carbon Homes from 2016.
- Disappointingly, the SAP consultation has not covered many of the aspects outlined as critical in the *Carbon Compliance for Tomorrows New Homes* (CC4TNH) report. Recognising this fact, it is imperative that a roadmap to SAP 2015 is urgently

developed and industry is keen to assist and support DECC in developing this. This is on the critical path and is urgent for 2016 regulations.

- Serious concern was expressed over the lack of recognition of the multimillion pound impact SAP can have on industry – and the potential effect on stalling innovation if changes are not made in a consistent and timely manner.
- As previously reported changes to the move to 'as built' performance must be integrated into the development of the SAP tool to provide a better prediction of performance and a structure which rewards continuous improvement. The SAP 2012 consultation fails to address the recommendations produced by the Zero Carbon Hub and others¹ and consequently the 2020 target (for 90% of dwellings to meet or perform better than the designed energy/carbon performance) must be regarded as being at risk.
- It is helpful that the overheating risk with homes built to higher energy efficiency standards (including those built to 2006 regulations) is being investigated by industry and DCLG (albeit to a limited extent), yet there is not currently an adequate tool for guiding designers and the approach to address this could fundamentally alter the development of SAP as well as the regulations.
- The group supports the inclusion of the Zero Carbon Hub as part of the new 'SAP Integrity Group'.
- The Zero Carbon Hub has produced a report on SAP which is submitted to the Taskforce alongside this report.

Designed vs As-built Performance (no status)

- The group discussed this issue and some were of the opinion that the formality of a PAS route was not required, and it was noted that various industry groups have been holding meetings to discuss alternatives
- The potential reasons for a 'performance gap' extends right back through the supply chain and embraces all aspects of product supply, procurement, predictive modelling, design specification and construction. Support was shown for starting to tackle the key issues alongside Part L 2013. The group felt that an industry/government group should be formed as soon as possible to review this issue.
- The group agreed that no status should be given at this time due to ongoing deliberations and dialogue between government and industry on this matter.

Knowledge and Skills (Amber)

- Last year was considered to be a critical year for ensuring that the knowledge base, initially focusing on industry professionals, is developing fast enough to meet the necessary timeline. However, the continued housing slump is delaying the development of these skills. It is helpful that the Skills Council is trying to develop solutions and the development of the HCA's new enabling role should also make key tools and lessons learned available to public sector land owners and local authorities.
- With the current poor health of the industry there is little R&D capital and therefore concern that knowledge and skills are leaving the industry as opposed to being enhanced.

¹ Carbon Compliance Setting an Appropriate Limit for Zero Carbon New Homes - findings & recommendations, Zero Carbon Hub February 2011 & Carbon Compliance for Tomorrow's New Homes, Zero Carbon Hub, July 2010

- The reforming of the Zero Carbon Hub and NHBC steering group funded by CITB ConstructionSkills will assess the current needs of the industry and produce clear evidence of shortfalls going forward.
- It is recognised that the Green Deal will act as a driver to develop some of the necessary skills.

Community and large-scale energy solutions (Amber)

- Whilst the definition of Carbon Compliance does not in itself result in increased reliance on community and district energy solutions, there is a need for a suite of ‘off the shelf’ legal and administrative frameworks to help speed deployment and reduce costs where these networks are technically appropriate or stipulated locally.
- Currently, there is not a coordinated national strategy for deployment of distributed energy solutions, which has resulted in numerous local policies setting out varying requirements for distributed or decentralised energy solutions in new developments. This is putting at risk the deployment of decentralised community energy solutions in appropriate locations in line with DECC’s roadmap for future energy solutions.
- The publication of DECC’s Heat Strategy gives support for community energy infrastructure, however the group were concerned that policies needed to be put in place to make this sentiment a reality. At present the majority of the housebuilding industry is focusing on individual/ small scale energy solutions, and there is currently a funding gap for community systems and HCA funding is no longer available to help with this.

Rob Pannell
24th May 2012

Key



Status degraded since last review

Appendix A

The Zero Carbon Hub maintains a series of timelines and convenes a cross-industry 'Timeline Group' on a regular basis to review and report progress.

Summary: Programme status by report

Programme Delivery Timeline Report No.	1	2	3	4	5	6	7	8	9	10	11	12
Date	Oct 2008	Jan 2009	Apr 2009	Oct 2009	Jan 2010	Nov 2010	Mar 2011	Jun 2011	Sep 2011	Nov 2011	Jan 2012	May 2012
OVERALL PROGRAMME STATUS	A	A	A	A	A	A	A	A	RA	RA	RA	RA
General comments	/	/	AG	AG	AG	/	/	/	/	/	/	/
EPBD	/	/	A	A	G	/	/	/	/	/	/	/
Definition of Zero Carbon	/	/	A	AG	(See below)							
Fabric Energy Efficiency Standard (FEES)	/	/	/	/	G	G	G	G	G	G	G	G
Carbon Compliance	/	/	/	/	AG	G	G	G	AG	AG	A	A
Allowable Solutions	/	/	/	/	R	RA	RA	R	R	R	R	R
National Calculation Methodology - SAP	/	/	AG	RA	RA	RA	RA	R	R	R	R	R
Low carbon pre-production homes	Scaling up examples of low carbon and zero carbon homes	/	AG	AG	AG	/	/	/	/	/	/	/
Zero carbon prototype homes		/	AG	AG	AG	AG	AG	A	A	A	A	A
Scale-up		/	AG	RA	RA	/	/	/	/	/	/	/
Knowledge and Skills	/	/	A	A	A	AG	AG	A	A	A	A	A
Miscellaneous	/	/	AG	AG	AG	/	/	/	/	/	/	/
Community and large scale energy solutions	/	/	/	/	/	A	A	A	A	A	A	A

KEY:

R	Red	Highly problematic	Requires urgent and decisive action
RA	Red/Amber	Problematic	Requires substantial attention
A	Amber	Issues	Some aspects require substantial attention, some good
AG	Amber/Green	Mixed	Some aspects require substantial attention, others good
G	Green	Good	Requires refinement and systematic implementation

Appendix B

A new format timeline showing progress in each area has been developed. This will be updated for future Timeline reports.

Zero Carbon Homes Delivery Timeline

Updated: March 2012

Overall Status: Red/ Amber

KEY				
Planned	Policy formulation	Supporting activities	Trials	All activities
Actual				
Latest Status:				
	Green	Amber/ Green	Amber	Red/ Amber
				Red

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
SUMMARY															
[S1] Definition of Zero Carbon															
[a]	Fabric Energy Efficiency Standard	Planned	[Timeline bars for Fabric Energy Efficiency Standard]												
		Actual	[Timeline bars for Fabric Energy Efficiency Standard]												
[b]	Carbon Compliance	Planned	[Timeline bars for Carbon Compliance]												
		Actual	[Timeline bars for Carbon Compliance]												
[c]	Allowable Solutions	Planned	[Timeline bars for Allowable Solutions]												
		Actual	[Timeline bars for Allowable Solutions]												
[S2]	SAP	Planned	[Timeline bars for SAP]												
		Actual	[Timeline bars for SAP]												
[S3]	As-built performance	Planned	[Timeline bars for As-built performance]												
		Actual	[Timeline bars for As-built performance]												
[S4]	Knowledge & Skills	Planned	[Timeline bars for Knowledge & Skills]												
		Actual	[Timeline bars for Knowledge & Skills]												
[S5]	Scale-up	Planned	Under consideration												
		Actual	Under consideration												
SUPPORTING POLICIES & PUBLICATIONS															
[P1] Government															
[a]	Part L		[Timeline with diamond markers]												
[b]	Code for Sustainable Homes		[Timeline with diamond markers]												
[c]	NPPF		[Timeline with diamond markers]												
[d]	DECC Heat strategy		[Timeline with diamond markers]												
[e]	RHI		[Timeline with diamond markers]												
[f]	FITs		[Timeline with diamond markers]												
[P2] Zero Carbon Hub															
[a]	Fabric Energy Efficiency Standard		[Timeline with diamond markers]												
[b]	Carbon Compliance		[Timeline with diamond markers]												
[c]	Carbon Compliance for Tomorrow's New Homes		[Timeline with diamond markers]												
[d]	Allowable Solutions		[Timeline with diamond markers]												
[e]	Home Building Skills 2020		[Timeline with diamond markers]												
[P3] Other															