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ZERO CARBON HOMES - PROGRAMME DELIVERY TIMELINE

2016 Taskforce – 13 September 2011

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 6 September.

Since the last update of the time line some progress is being made towards the objective of zero carbon new homes from 2016, but the general picture remains one of urgent action in key areas to realise the ambition in the timescales set. Despite continued difficult house building market conditions, leaders from across the broader house building, supply chain, professional and client sectors are continuing to engage with the agenda.

The required underpinning work on definition, policy and regulation is coming together and providing a clearer picture to industry. However, as previously reported, there are a number of areas where progress is too slow and this is continuing to cause significant concern. This is now likely to impact on the ability of industry to deliver zero carbon homes in accordance with the 2016 Timeline.

The overall status has been downgraded from Amber to Amber Red for a number of reasons, but particularly because the 'National Compliance Methodology' (i.e. SAP) remains at Red and outstanding work on the Carbon Compliance Standard has not progressed. There is also significant concern that the Code for Sustainable Homes (the 'Code') has not been revised to reflect the zero carbon definition for 2016, which continues to distract industry as a whole. A copy of the summary timeline is attached at Appendix A.

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

Key Points

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

- HCA funding to support early adoption of low and zero carbon standards (including Code Level 4) is no longer available with their quality standard requirement now remaining at Code Level 3 for the current funding round. There is significant concern that the numbers required to meet the 'scale up' requirements will not easily be met. This significantly reduces the predictability and planned nature of scale up and the opportunity to disseminate learning.

- The Code for Sustainable Homes is an important aid to encourage early learning but there is concern that the late revision of the Code to reflect the latest zero carbon definition is creating confusion and sending the industry down blind alleys and/or resulting in unintended consequences.
- As of June 2011, just over 2,600 homes have been built to date to 44% or better than 2006 Building Regulations (i.e. energy requirements of Code Level 4) which is fewer than the minimum considered necessary at this stage (3,000 homes).
- Consistent scale up and dissemination of learning prior to regulations being introduced is an important element of safely and efficiently delivering this zero carbon homes policy.
- 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 be encouraged to 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).

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).
- The Part L 2013 process is utilising the FEES methodology and considering the appropriate level on the path to zero carbon from 2016.
- FEES is a requirement of the HCA's Public Land Initiative and some 1,200 homes are either on site or in the final stages of procurement. FEES is also being tested in detail as part of a Hub-led monitoring project of 12 new flats in Rowner as part of the TSB 'Build Performance Evaluation' assessment.

Carbon compliance (Amber Green)

- The outstanding additional work from the Carbon Compliance Standard (CCS) report is now causing 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'. Further, the Code for Sustainable Homes has yet to reflect requirements of CCS, which is delaying the opportunity for early adopters to evaluate the Standard.
- The Carbon Compliance Task group completed its considerations and recommended a metric and level based on 'as built' performance which has been endorsed by the Minister. The Carbon Compliance level will be formally consulted on as part of the usual building regulations consultation process**.**
- The carbon compliance level determined for 2013 must provide a pathway for industry towards zero carbon in 2016. Zero Carbon Hub has been closely involved with preparatory work for the Part L 2013 consultation, but has not been informed of what options will be offered for consultation.
- Part L 2013 needs to provide an appropriate basis for the introduction of an 'as built' performance mechanism in 2016 including gathering evidence on actual performance and provide a smooth trajectory through to the proposed 2016 standards.
- The adoption of district heating solutions remains in its infancy and lacks strategic implementation. The loss of HCA funding is again further hampering the early adopters from adequately testing these solutions where they make sense.

- The methodology proposed in the Hub task group report *Carbon Compliance for Tomorrow's New Homes* for grid carbon intensity methodology is necessary to provide stability and predictability to industry and urgently needs to be confirmed by Government.

Allowable solutions (Red)

- Zero Carbon Hub facilitated industry engagement in the design of a framework for Allowable Solutions which needs to rapidly lead to the development of a fully detailed mechanism. Industry feedback suggests that the Hub proposal has been well received. However, the lack of a defined timescale for the development and adoption of a clear policy is hindering commercial certainty within industry.
- The Budget 2011 'Plan for Growth' report announced that the 2016 zero carbon definition would cover regulated energy only and also indicated that the carbon price would be at the carbon market price. The subsequent DCLG Zero Carbon Homes impact assessment used £46/tCO_2. Considerable concerns remain that this is not clarified as the actual cost of t/CO_2 which creates 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.
- Some local authorities are creating their own allowable solutions schemes. This reinforces the need for a national framework to ensure a level of consistency and avoid ineffective use of development capital for CO_2 abatement in the built environment.
- The development of the National Planning Policy Framework (NPPF) and the discussions surrounding the Local Housing Delivery Group (ex Local Standards Framework) is helpful but there is no mention in the NPPF of Allowable Solutions, which is a cause for concern.

National compliance methodology - SAP (Red)

- SAP needs to be developed to ensure it is fit for use with low energy homes as outlined within the *Carbon Compliance for Tomorrows New Homes* report. This development is on the critical path and is urgent for both 2013 and 2016 regulations. The intention for all major changes to SAP to be undertaken as part of 2013 regulation changes providing consistency to industry in advance of the introduction of the zero carbon in 2016 has already been missed. This is of a serious concern and the lack of recognition to the multimillion pound impact on industry cannot be overstated.
- 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, 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.
- Changes to SAP will require resource and time and this does not appear to be underway. It is recognised that industry could assist with the development to assist with meeting the necessary timescales and this is a matter for urgent discussion with both DCLG and DECC.

- Changes as a consequence of the move to ‘as built’ performance need to be integrated into the SAP tool providing a better prediction of performance and providing a structure which rewards continuous improvement / disadvantages bad practice.
- A Zero Carbon Hub report on the urgent outstanding items that need to be addressed will be circulated alongside this report.

Knowledge and Skills (Amber)

- 2011 is 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. This does not appear to be happening at the speed and intensity desired. However it is helpful that some of the Climate Change skills fund is being used to help local authority planning departments gain a better understanding of the developing zero carbon definition 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.
- 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.

Community energy and infrastructure enabling actions (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 to have a suite of ‘off the shelf’ legal and administrative frameworks to speed deployment and reduce costs where this is stipulated locally or where such a solution would be more cost effective in a regulated market.
- The emerging national/local policy landscape does not appear to sufficiently facilitate deployment of appropriate decentralised community energy solutions.

Rob Pannell
8 September 2011

Status degraded since last review

Zero Carbon Homes Delivery Time Line Summary

Status

Red | Red / Amber | Amber | Amber / Green | Green

Sep 2011

Item	Description		2009 Q3 Q4	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
				PART L 2010			PART L 2013		PART L 2016							
1	Definition of minimum EE for ZC															
2	Final definition of ZC Homes (EE, CC, AS)															
3	SAP 2016 Main development (for use with 2013 Buiilding Regs consultation)			Not Delivered		To be rescheduled										
4	Addressing overheating risk			elivered		To be rescheduled										
4b	Ventilation risk															
5	Systems for certification, accreditation, verification (ES and EE)			Not Delivered		To be rescheduled										
6	Increasing knowledge of planners & committees			Under Delivered												
7	Development of design guidance for EE and Carbon compliance															
8	Community energy & infrastructure enabling actions															
9	Number of homes >=44% reduction (cumulative)	Needed:		500	3,000	6,000	10,000	20,000								
		Delivered:	157	2,005	2,600											
10	Number of sites with community solns (cumulative)	Needed:		25	100	300	600	1,000								
		Delivered:	not known	not known	not known											
11	Performance monitoring and embedding learning (As Built)			Under Delivered												
13	Valuers, mortgage lenders, insurers knowledge (larger)			Under Delivered												
14a	Low Carbon Homes - training, skills and knowledge					75% of Supply Chain familiar	75% of Building Control familiar									
				Under Delivered				75% of Architects familiar	75% of Site Mngrs familiar							
14b	Zero Carbon Homes - training, skills and knowledge					75% of Master planners familiar	75% of Planners familiar	75% of Architects familiar			75% of Site Mngrs familiar					
							75% of Supply Chain familiar		75% of Building Control familiar							
15	Allowable solutions															
	- Scheme design			Not Delivered		To be rescheduled										
	- Delivery vehicle set up / Trials															
	- National roll out															
16	Building consumer demand (over an above 'normal activity')															
17	Small Housebuilder model Buildout					100%	% 2013 Reg homes				% of Zero Carbon homes					
18	Large Housebuilder model Buildout					100%	% 2013 Reg homes				% of Zero Carbon homes					

Urgent, important and slipping

STATUS

Critical Activity | Significant Activity | Moderate Activity